PIONEER
TECHNICAL SERVICES, INC.

Closed

County Silver Bow
Facility & # Butte - Silver Bow #20
Closure
Finan Assur
GW Corr Meas
[✓ GW Monitoring]
GW Reports
Inspections
Other: ____________
Landfarm
Liner
Methane
O & M
Run-on

DEC 08 2011

DEPT. OF ENVIRO. QUALITY
WASTE & UNDERGROUND TANK
MANAGEMENT BUREAU

December 6, 2011

Mr. Martin Van Oort
Montana DEQ/Solid Waste Program
P.O Box 200901
Helena, MT 59620-0901

RE: Old Butte-Silver Bow County Landfill/Clark Tailings

Dear Martin:

Enclosed please find results from the Old Butte-Silver Bow County Landfill/Clark Tailings September 2011 semi-annual groundwater monitoring event. The following have been included for your information:

- September 2011 sampling summary;
- Table 1 analytical data summary;
- Table oldlfctsept11 (non-parametric comparison of wells);
- Groundwater field parameters collected in the field;
- Copy of field notes;
- Trend graphs of detected compounds;
- Groundwater potentiometric surface map for September 2011; and
- Analytical data from Pace Labs in Minneapolis, Minnesota.

The calculated Confidence Level of 97.4 % was found using the formula n/(n+k), where n is the total number of background samples collected and k is the number of future sampling events (Section 4.2.1 Non-Parametric Prediction Intervals, Pages 61-63 and Table A-7 Appendix A and Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance. Office of Solid Waste Permits and State Programs Division, U.S. EPA, July 1992).

The groundwater velocity was calculated using Darcy's Law and the equation for the seepage velocity. The average groundwater velocity for September 2011 sampling event was 6.98E-05 ft/day. The hydraulic conductivity value used to obtain the groundwater velocity was obtained from the Corrective Measures Assessment Report (Pioneer Technical Services, April 2009) and from pumping data from the March 2009 sampling.

Voluntary methane monitoring of the interior of the site buildings, vents and monitoring wells was also completed during the September 2011 sampling event and was sent to the Montana DEQ in a separate report.

Sincerely,

Brad Hollamon

Brad Hollamon
Senior Technician

Encl.
cc: Gary Keeler, BSB Landfill Manager
J.D. Emmert, Pioneer Technical Services, Inc.

HELENA
201 East Broadway, Suite C
Helena, MT 59601
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TECHNICAL SERVICES, INC.

P.O Box 3445, Butte, MT 59702
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December 6, 2011

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WASTE & UNDERGROUND TANK
MANAGEMENT BUREAU

OLD SILVER BOW LANDFILL
SEPTEMBER 2011 GROUNDWATER MONITORING

The September 2011 round of sampling at the Old Silver Bow Landfill included sampling for the full Table 2 list of analytics in accordance with the Assessment Monitoring program. Table 1, attached, summarizes the analytical results. The discussion below compares these data to previous results and to current Maximum Contaminant Levels (MCLs) and Montana Human Health Standards (HHSs).

Well MBMG-2 (up gradient):

No semi-volatiles, volatile, chlorinated acids, or pesticides were detected in the well during this sampling event. Metals detected below the maximum background concentrations are; As (.0013 mg/L), Ba (0.150 mg/L), Cu (0.0011 mg/L), Fe (0.440 mg/L), V (0.0072 mg/l), and Se (0.0006654 mg/L). There were no metals detected above the maximum background concentrations during this sampling event. Nitrate/nitrite (7.50 mg/L), Chloride (59 mg/l), and Sulfate (141 mg/L) were detected at concentrations below the maximum background.
No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A1 (North):

No semi-volatile, volatile, chlorinated acids, or pesticides were detected in the well during this sampling event. In accordance with the modified assessment-monitoring program, a sample for metals analyses was not collected from this well.
There were no inorganic compounds detected at levels above maximum baseline or above maximum background in this well during this sampling event.
No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A5 (Northeast Well):

In accordance with the modified assessment-monitoring program, a sample for metals analyses was not collected from this well. No semi-volatiles, chlorinated acids, or pesticides were detected in the well during this sampling event. Two volatile organic compounds were detected in this well during this sampling event, Tetrachloroethene (Pace 1.20 μg/L), exceeds maximum background of 1.0 μg/L and cis-1,2-Dichloroethene (Pace 3.20 μg/L), exceed maximum background concentrations and maximum baseline of 2.60 μg/L.
Sulfate detected at 682 mg/L exceeds maximum background concentration.
Sulfate also exceeds the secondary USEPA MCL of 250 mg/L.

Well BSB-A6-R (Central Well):

Well BSB-A6-R is the replacement well for BSB-A6, removed during the construction of Timber Butte Youth Park. Seven volatile organic compounds (VOC's) were detected in this well; three of the seven were detected at levels below the quantification limit. The seven volatile organic compounds were as follows:

SAMPLE NUMBER WELL ANALYTE (units):	BSB-GW-O13 MBMG-2 E	BSB-GW-O9 Field Blank Trip Blank	GW PROTECTION STANDARDS USEPA MCL*	 MONTANA HHS
DISSOLVED METALS (mg/L)				
Antimony	< 0.0005	SA	0.006	0.014
Arsenic	0.0013	SA	0.05	0.01
Barium	0.15	SA	2	2
Beryllium	< 0.00020	SA	0.004	0.004
Cadmium	< 0.00008	SA	0.005	0.005
Chromium	< 0.0005	SA	0.1	0.1
Cobalt	< 0.0005	SA	- - -	- - -
Copper	0.0011	SA	1.3 (a)	1.3
Iron	0.44	SA	0.3(s)	0.3
Lead	< 0.00010	SA	0.015 (a)	0.015
Mercury	< 0.0002	SA	0.002	0.002
Nickel	< 0.0005	SA	0.1	0.1
Selenium	0.0007	SA	0.05	0.05
Silver	< 0.00050	SA	0.1	0.1
Thallium	< 0.00010	SA	0.002	0.002
Tin	NR	SA		
Vanadium	0.0072	SA	- - -	- - -
Zinc	< 0.0050	SA	5	2
INORGANICS (mg/L)				
Chloride	59	SA	250	- - -
COD	< 50.0	SA	- - -	- - -
Conductivity (umhos/cm)	904	SA	- - -	- - -
Cyanide	< 0.005	SA	- - -	0.2
Nitrate\Nitrite - N	7.5	SA	10	10
pH	7.1	SA		
Sulfate	141	SA	250	- - -
Sulfide	NR	SA		
EPA METHOD 8260 (ug/L)				
Acetone	< 10.0	SA	- - -	- - -
Benzene	< 1.0	SA	5	5
Carbon Disulfide	< 1.0	SA	- - -	- - -
Chloroethane	< 1.0	SA	- - -	- - -
Chloroform	< 1.0	SA	- - -	70
Chlormethane	< 4.0	SA	- - -	- - -
1,4-Dichlorobenzene	< 1.0	SA	75	75
Dichlorodiflouromethane	< 1.0	SA	- - -	1000
1,1-Dichloroethane	< 1.0	SA	- - -	- - -
1,2-Dichloroethane	< 1.0	SA	5	4
cis-1,2-Dichloroethene	< 1.0	SA	70	70
trans-1,2-Dichloroethene	< 1.0	SA	100	100
1,2-Dichloropropane	< 1.0	SA	5	5
4-Isopropyltoluene	< NR	SA	- - -	- - -
Methylene Chloride	< 4.0	SA	5	30
Naphthalene	< 10.0	SA	- - -	100
Tetrachloroethene	< 1.0	SA	5	5
Trichloroethene	< 1.0	SA	5	5
1,2,4-Trimethylbenzene	NR	SA	- - -	- - -
Vinyl Chloride	< 0.4	SA	2	0.2
EPA METHOD 8270 (ug/L)				
bis(2-ethylhexyl)Phthalate	< 10	NS	6	6
EPA METHOD 8151 (ug/L)	< 0.2	NS		
Dicamba				
2,4,5-TP (Silvex)				
2,4-D				
EPA METHOD 8081 (ug/L)	ND	NS		

* MCL definitions: a = action level, not an MCL; s = secondary MCL (aes

NA = Not enough sample available for analysis

NR = Analysis Not Requested

ND = Analyte Not Detected

J = Estimated Quantity. Anlyte present, but less than the practical quanti

NS= Sample Not Collected (Dry Well-BSB-A5)

SA = Sample Not Taken

TABLE I: ANALYTICAL DATA FOR GROUNDWATER SAMPLES, OLD SILVER BOW COUNTY LANDFILL
DATE SAMPLED: September 12, 2011

SAMPLE NUMBER WELL ANALYTE (units):	BSB-GW-O1 MBMG-2	BSB-GW-O2 BSB-A1	BSB-GW-O3 BSB-A5	BSB-GW-O4 BSB-A6-R	BSB-GW-O5 CLK-1	BSB-GW-O6 CLK-2	BSB-GW-07 BSB-A6R DUPE	BSB-GW-08 CLK-2 DUPE	BSB-GW-O9 Field Blank Trip Blank	GW PROTECTION STANDARDS USEPA MCL*	 MONTANA HHS
DISSOLVED METALS (mg/L)											
Antimony	< 0.0005	NR	NR	NR	< 0.0005	< 0.0005	NR	SA	SA	0.006	0.014
Arsenic	0.0013	NR	NR	NR	0.130	0.0014	NR	SA	SA	0.05	0.01
Barium	0.15	NR	NR	NR	0.022	0.038	NR	SA	SA	2	2
Beryllium	< 0.00020	NR	NR	NR	0.00034	< 0.0002	NR	SA	SA	0.004	0.004
Cadmium	< 0.00008	NR	NR	NR	0.014	0.00020	NR	SA	SA	0.005	0.005
Chromium	< 0.0005	NR	NR	NR	< 0.0005	0.00067	NR	SA	SA	0.1	0.1
Cobalt	< 0.0005	NR	NR	NR	0.046	< 0.0005	NR	SA	SA	- - -	- - -
Copper	0.0011	NR	NR	NR	0.0009	0.0024	NR	SA	SA	1.3 (a)	1.3
Iron	0.44	NR	NR	NR	14.7	< 0.050	NR	SA	SA	0.3(s)	0.3
Lead	< 0.00010	NR	NR	NR	< 0.00010	< 0.00010	NR	SA	SA	0.015 (a)	0.015
Mercury	< 0.0002	NR	NR	NR	< 0.0002	< 0.0002	NR	SA	SA	0.002	0.002
Nickel	< 0.0005	NR	NR	NR	0.0370	0.005	NR	SA	SA	0.1	0.1
Selenium	0.0007	NR	NR	NR	< 0.0005	0.0009	NR	SA	SA	0.05	0.05
Silver	< 0.00050	NR	NR	NR	< 0.0005	< 0.0005	NR	SA	SA	0.1	0.1
Thallium	< 0.00010	NR	NR	NR	< 0.0001	< 0.0001	NR	SA	SA	0.002	0.002
Tin	NR	NR	NR	NR	NR	NR	NR	SA	SA		
Vanadium	0.0072	NR	NR	NR	0.00039	0.0036	NR	SA	SA	- - -	- - -
Zinc	< 0.0050	NR	NR	NR	52.2	0.099	NR	SA	SA	5	2
INORGANICS (mg/L)											
Chloride	59	17	35	58	33	63	NR	SA	SA	250	- - -
COD	< 50.0	< 50.0	< 50.0	306	NR	NR	NR	SA	SA	- - -	- - -
Conductivity (umhos/cm)	904	474	1650	2360	1710	1680	NR	SA	SA	- - -	- - -
Cyanide	< 0.005	< 0.005	0.0059 J	.0073 J	NR	NR	NR	SA	SA	- - -	0.2
Nitrate\Nitrite - N	7.5	0.32	4.2	< 0.10	NR	NR	NR	SA	SA	10	10
pH	7.1	7.2	6.5	6.0	6.0	6.6	NR	SA	SA		
Sulfate	141	71	682	1210	800	657	NR	SA	SA	250	- - -
Sulfide	NR	NR	NR	NR	NR	NR	NR	SA	SA		
EPA METHOD 8260 (ug/L)											
Acetone	< 10.0	< 10.0	< 10.0	< 25.0	NR	NR	SA	NR	SA	- - -	- - -
Benzene	< 1.0	< 1.0	< 1.0	(Pace 0.59 J)< 1.0	NR	NR	SA	NR	SA	5	5
Carbon Disulfide	< 1.0	< 1.0	< 1.0	< 1.0	NR	NR	SA	NR	SA	- - -	- - -
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0	NR	NR	SA	NR	SA	- - -	- - -
Chloroform	< 1.0	< 1.0	< 1.0	< 1.0	NR	NR	SA	NR	SA	- - -	70
Chlormethane	< 4.0	< 4.0	< 4.0	< 1.0	NR	NR	SA	NR	SA	- - -	- - -
1,4-Dichlorobenzene	< 1.0	< 1.0	< 1.0	2.4	NR	NR	SA	NR	SA	75	75
Dichlorodiflouromethane	< 1.0	< 1.0	< 1.0	< 1.0	NR	NR	SA	NR	SA	- - -	1000
1,1-Dichloroethane	< 1.0	< 1.0	(Pace 0.25 J)< 1.0	1.3	NR	NR	SA	NR	SA	- - -	- - -
1,2-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0	NR	NR	SA	NR	SA	5	4
cis-1,2-Dichloroethene	< 1.0	< 1.0	3.2	7.0	NR	NR	SA	NR	SA	70	70
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	NR	NR	SA	NR	SA	100	100
1,2-Dichloropropane	< 1.0	< 1.0	< 1.0	(Pace 0.53 J)< 1.0	NR	NR	SA	NR	SA	5	5
4-Isopropyltoluene	< NR	NR	NR	NR	NR	NR	SA	NR	SA	- - -	- - -
Methylene Chloride	< 4.0	< 4.0	< 4.0	< 4.0	NR	NR	SA	NR	SA	5	30
Naphthalene	< 10.0	< 10.0	< 10.0	< 10.0	NR	NR	SA	NR	SA	- - -	100
Tetrachloroethene	< 1.0	< 1.0	2.1	< 1.0	NR	NR	SA	NR	SA	5	5
Trichloroethene	< 1.0	< 1.0	(Pace 0.78 J)< 1.0	(Pace 0.48 J)< 1.0	NR	NR	SA	NR	SA	5	5
1,2,4-Trimethylbenzene	NR	NR	NR	NR	NR	NR	SA	NR	SA	- - -	- - -
Vinyl Chloride	< 0.4	< 0.4	< 0.4	4.0	NR	NR	SA	NR	SA	2	0.2
EPA METHOD 8270 (ug/L)											
bis(2-ethylhexyl)Phthalate	< 10	< 10	< 10	< 10	NR	NR	SA	NR	NS	6	6
EPA METHOD 8151 (ug/L)	< 0.2	< 0.2	< 0.2	< 0.2	NR	NR	SA	NR	NS		
Dicamba											
2,4,5-TP (Silvex)											
2,4-D											
EPA METHOD 8081 (ug/L)	ND	ND	ND	ND	NR	NR	SA	NR	NS		

* MCL definitions: a = action level, not an MCL; s = secondary MCL (aesthetics)
NA = Not enough sample available for analysis
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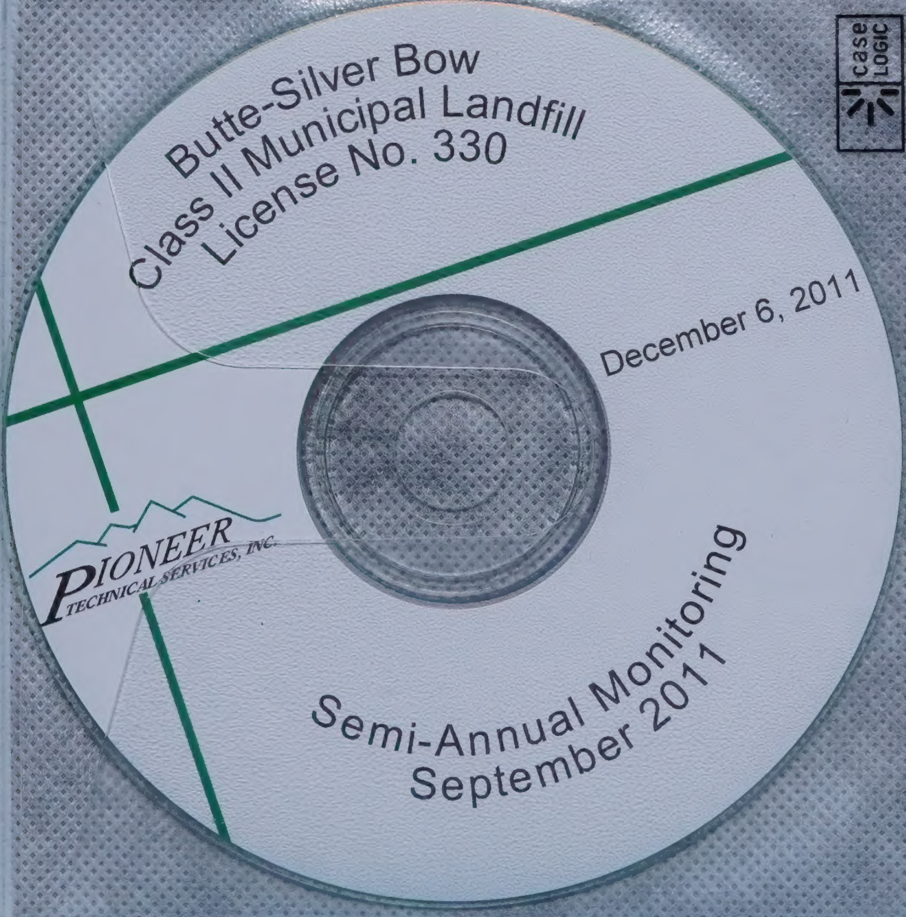
Old Butte-Silver Bow County Landfill
GROUNDWATER FIELD CHEMISTRY RESULTS AND PURGE VOLUMES
September-11

Well I.D.	Sample #	Depth (ft)	Radius (ft)	S.W.L. (ft)	TOC Elevation (ft)	Groundwater Elevation (ft)	pH. (su)	E.h. (mV)	S.C. (uS/cm)	T (Celsius)	Sample Time	H2O Volume Req'd (gal)	H2O Volume Purged (gal)	Comments
MBMG-2	BSB-GW-01	23.25	0.17	13.31	5529.88	5516.57	7.03	124.9	711	11.0	12:25	4.97	8.00	
BSB-A1	BSB-GW-02	57.00	0.17	34.98	5531.50	5496.52	7.06	-101.1	388	16.7	16:00	11.01	2.60	
BSB-A5	BSB-GW-03	45.60	0.17	39.28	5524.62	5485.34	6.37	34.40	387	14.5	15:15	3.16	3.50	
BSB-A6-R	BSB-GW-04	59.75	0.17	50.67	5554.41	5503.74	6.11	111.0	1893	15.1	11:20	4.54	2.65	
BSB-A6-R	BSB-GW-07	59.75	0.17	51.60	5554.41	5502.81	NA	NA	NA	NA	NA	4.08	NA	VOC Duplicate
CLK-1	BSB-GW-05	19.00	0.17	3.64	5478.73	5475.09	6.20	-168.0	1477	11.0	0:00	7.68	8.00	
CLK-2	BSB-GW-06	46.90	0.17	39.23	5511.17	5471.94	6.57	-158.2	1425	11.4	13:25	3.84	5.50	
CLK-2	BSB-GW-08	46.90	0.17	39.23	5511.17	5471.94	NA	NA	NA	NA	NA	3.84	NA	Raw, DM Duplicate
Blank	BSB-GW-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Field Blank

KEY:

NA	Measurement Not Taken
SA	Sample Not Taken



Butte-Silver Bow
Class II Municipal Landfill
License No. 330

December 6, 2011

PIONEER TECHNICAL SERVICES, INC.

Semi-Annual Monitoring
September 2011

FIELD SAMPLE DATA SHEET

Page 1 of 1

Project Name: Old Landfill
WELL/STATION MBMG-2 DATE 9/12/11 TIME 1050
SAMPLERS J WEATHER CONDITIONS Sunny, smokey, calm, 60s
PHOTO: Yes ______ No X ROLL# ______ NUMBER ______

PURGE DATA:

PURGE METHOD 3 stage 12 volt pump w/dedicated tubing
START PURGING 1126
PURGE RATE 250 ~~GPM~~ ml/min
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 1225

WELL DEPTH 23.25 Feet
DEPTH TO WATER 13.31 Feet TPVC
COLUMN DEPTH 9.95 Feet
CASING DIAMETER 2" Inch
PUMP SET AT 18' Feet
3 WELL VOLUMES 4.97 Gallons
TOTAL PURGE VOLUME 8 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-01	250 ml	X	HNO_3	Dissolved Metals-
BSB-GW-01	250ml		H_2SO_4	NO_2/NO_3, COD
BSB-GW-01	250ml		NaOH	CN^-
BSB-GW-01	1L		None	pH, Sc, Cl^-, SO_4^{-2}
BSB-GW-01	2-1L amber glass		None	SVOC
BSB-GW-01	2-1L amber glass		None	Herbicide
BSB-GW-01	3 40ml vials		HCl	8260-VOC

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l	DTW
1150	3 Gal	11.1	7.03	674	135.4	0.64	13.39
1205	5 gal	11.0	7.05	700	125.3	0.40	13.43
1210	6 gal	10.7	7.06	700	124.6	0.40	13.42
1215	6.75	10.9	7.05	700	124.8	0.37	3.42
1220	7.50	11.0	7.04	700	125.4	0.36	
1225	8 gal	11.0	7.03	711	124.9	0.35	13.42

FINAL FIELD PARAMETERS PRIOR TO SAMPLING

1225	8	11.0	7.03	711	124.9	0.35

FIELD REMARKS: Initial Drawdown-13.42, Final Drawdown-13.42'

FIELD SAMPLE DATA SHEET

Page 1 of 1

Project Name: Old Landfill Monitoring
WELL/STATION BSB-A1
DATE 9/12/11
TIME 1330
SAMPLERS F
WEATHER CONDITIONS Sunny, Calm, Smokey, 80F,
PHOTO: Yes ______ No X
ROLL# ______ NUMBER ______

PURGE DATA:

PURGE METHOD 3 stage 12 volt pump w/dedicated teflon tubing
START PURGING 1430
PURGE RATE F ~~GPM~~ ~100 ml/min
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 1600 - Begin

WELL DEPTH 57.00 Feet
DEPTH TO WATER 34.98 Feet TPVC
COLUMN DEPTH F ~~2"~~ 17.02 Feet
CASING DIAMETER 2" Inch
PUMP SET AT 47' Feet
3 WELL VOLUMES 8.5 Gallons
TOTAL PURGE VOLUME 2.6 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-02	1L ~~250 ml~~	~~X~~	None ~~HNO₃~~	PH, Sc, Cl⁻, SO4⁻2 ~~Dissolved Metals~~ F
BSB-GW-02	250 ml		NaOH	CN⁻
BSB-GW-02	250 ml		H2SO4	NO2/NO3, COD
BSB-GW-02	2-1 l glass		None	Herbicide -8151
BSB-GW-02	2-1 l glass		None	SVOC -8270
BSB-GW-02	3-40 ml vials		HCL	VOCS-8260

FIELD PARAMATERS:

Rising because purging so slow

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l	DTW
1500	.75	16.3	7.15	382	131.2	0.26	35.70
1530	1.6	16.4	7.09	387	51.1	0.23	35.73
1545	2.1	16.1	7.08	387	NA	0.24	
1550		16.3	7.08	387	F ~~NA~~ -63.1	0.23	35.70
1555		16.5	7.06	389	- -87.5	0.22	35.69
1600	2.6	16.7	7.06	388	-101.1	0.22	35.68

FINAL FIELD PARAMETERS PRIOR TO SAMPLING

1600	2.6	16.7	7.06	388	-101.1	0.22

FIELD REMARKS: Initial Drawdon- 36.39, Final Drawdown- 35.6~~8~~3 F

Pioneer Technical Services

5090
027001

FIELD SAMPLE DATA SHEET

Page 1 of 1

Project Name: OLD LANDFILL
WELL/STATION BSB-AS
DATE 9/12/11
TIME 1011
SAMPLERS JF
WEATHER CONDITIONS Smoky, Clear, Slt Breeze, 57°F
PHOTO: Yes ______ No X
ROLL# ______
NUMBER ______

PURGE DATA:

PURGE METHOD Dedicated Teflon Bailer
START PURGING 1025
PURGE RATE NA GPM
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 1515

WELL DEPTH 45.60 Feet
DEPTH TO WATER 39.28 Feet TPVC
COLUMN DEPTH 6.32 Feet
CASING DIAMETER 2" Inch
PUMP SET AT NA Feet
3 WELL VOLUMES 3.25 Gallons
TOTAL PURGE VOLUME 3.50 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-03	250 ml	~~X~~ JF	~~HNO_3~~ H_2SO_4 JF	~~Dissolved Metals~~ NO_2/NO_3, COD
BSB-GW-03	250 ml		NaOH	CN^-
BSB-GW-03	1 L		None	pH, Sc, Cl, SO_4^{-2}
BSB-GW-03	2-1 L amber glass		None	Herbicides
BSB-GW-03	2-1 L amber glass		None	SVOCs
BSB-GW-03	3-40 ml vials		HCL	VOCs 8260

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1520	350	14.5	6.37	387	34.4	0.28

FIELD REMARKS: Purged 3.5 gallons will let sit prior to sampling

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page 1 of 1

Project Name: ~~BSB-A6R~~ J Old Landfill

WELL/STATION BSB-A6R DATE 9/13/11 TIME 945

SAMPLERS J WEATHER CONDITIONS Sunny, Smoky, calm, 50s

PHOTO: Yes ______ No X ROLL# ______ NUMBER ______

PURGE DATA:

PURGE METHOD 3 stage 12 volt submersible w/dedicated teflon tubing

START PURGING 1023

PURGE RATE ~140-150 ~~GPM~~ ml/min

RATE CHANGE 1) Time ______ Rate ______

2) Time ______ Rate ______

SAMPLE TIME 1120

WELL DEPTH 59.75 Feet

DEPTH TO WATER 50.67 Feet TPVC

COLUMN DEPTH 9.08 Feet

CASING DIAMETER 2" Inch

PUMP SET AT 54' Feet

3 WELL VOLUMES 4.54 Gallons

TOTAL PURGE VOLUME 2.65 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-04	250 ml	~~X~~ J	~~HNO_3~~ NaOH J	~~Dissolved Metals~~ J CN^-
BSB-GW-04	250 ml		H_2SO_4	NO_2/NO_3, COD
BSB-GW-04	1 L		Raw	pH, SC, Cl^-, SO_4^{-2}
BSB-GW-04	2-1L amber glass		Raw	Herbicides
BSB-GW-04	2-1L amber glass		Raw	SVOC
BSB-GW-04	3-40 ml amber vial		HCl	VOC, 8260

FIELD PARAMATERS:

TIME	Amount Purged Gal	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l	DTW
1055	1.5	14.3	6.17	1796	117.6	0.30	51.09
1100		14.7	6.15	1796	118.3	0.27	51.10
1105		14.8	6.13	1894	117.5	0.24	51.10
1110	2.0	14.9	6.13	1893	1164	0.22	51.09
1115		15.0	6.12	1893	114.5	0.21	51.09
1120	2.65	15.1	6.11	1893	111.0	0.21	51.09

FINAL FIELD PARAMETERS PRIOR TO SAMPLING

1120	2.65	15.1	6.11	1893	111.0	~~0.26~~ 0.21

FIELD REMARKS: ______

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Old Landfill | Clark Tailings
WELL/STATION CLK-1 DATE 9/13/16 TIME 1355
SAMPLERS JS WEATHER CONDITIONS Sunny, Hot, Smokey, Calm, 78°F
PHOTO: Yes ______ No X ROLL# ______ NUMBER ________

PURGE DATA:

PURGE METHOD 3 stage 12 volt submersible w/ carry battery
START PURGING 1408
PURGE RATE ________ GPM
RATE CHANGE 1) Time ______ Rate ________
2) Time ______ Rate ________
SAMPLE TIME 1434

WELL DEPTH 19.00 Feet
DEPTH TO WATER 3.64 Feet TPVC
COLUMN DEPTH 15.36 Feet
CASING DIAMETER 2" Inch
PUMP SET AT 17' Feet
3 WELL VOLUMES 7.75 Gallons
TOTAL PURGE VOLUME 8 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-05	250 ml	X	HNO_3	Dissolved Metals-
BSB-GW-05	1 L		None	pH, SC, Cl⁻, SO_4^{-2}

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
14:18	4.5gal	10.9	6.24	1425	-155.8	0.35
14:20	4.85gal	10.9	6.22	1425	-158.3	0.38
14:22	4.90gal	11.0	6.22	1425	-160.8	0.41
14:24	5.10	10.8	6.21	1425	-162.1	0.41
14:26	6.00	11.0	6.21	1477	-162.6	0.41
14:28	6.50	11.0	6.20	1477	-166.7	0.41
14:30	7.00	11.1	6.20	1477	-168.7	0.41
14:32	7.50	11.1	6.20	1477	-168.6	0.41
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
14:34	8.00	11.0	6.20	1477	-168.8	0.41

FIELD REMARKS: Initial Drawdown-3.98 Final Drawdown-3.94

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Clark Tailings/Old Landfill
WELL/STATION CLK-2
DATE 9/13/11
TIME 1236
SAMPLERS J
WEATHER CONDITIONS Sunny, Smokey, Calm, 76°F
PHOTO: Yes ______ No X
ROLL# ______
NUMBER ________

PURGE DATA:

PURGE METHOD 3 stage 12 volt submersible pump w/carry battery
START PURGING 1258
PURGE RATE .25 GPM
RATE CHANGE 1) Time ______ Rate ________
2) Time ______ Rate ________
SAMPLE TIME 1325

WELL DEPTH ~~41.07~~ 46.90 Feet
DEPTH TO WATER 39.23 Feet
COLUMN DEPTH 7.67 Feet
CASING DIAMETER 2" Inch
PUMP SET AT 45 Feet
3 WELL VOLUMES 3.85 Gallons
TOTAL PURGE VOLUME 5.5 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-06	250 ml	X	HNO_3	Dissolved Metals-
BSB-GW-06	1 L		None	Cl^-, SO_4^{-2}, pH, SC

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l	
1305		11.9	6.44	1345	-151.2	0.43	
1310		11.5	6.48	1425	-154.8	0.43	39.3
1315		11.5	6.52	1425	-160.0	0.42	39.41
1317	~4 gal	11.4	6.54	1425	-161.0	0.41	
1319		11.4	6.55	1425	-160.6	0.41	39.4
1321	~5 gal	11.4	6.56	1425	-158.1	0.40	39.44
1323		11.4	6.56	1425	-159.2	0.40	
FINAL FIELD PARAMETERS PRIOR TO SAMPLING							
1325	5.5 gal	11.4	6.57	1425	-158.2	0.40	39.45

FIELD REMARKS: Water clean throughout

9/12/11 OLD ~~[illegible]~~ F LANDFILL

1011 Arrive @ BSB-AS

J. Flammang - PTS

Smokey, Sunny, Slt Breeze 57°F

Safety Mtg: Smoke in air - watch for headache, respiratory ailments, public interaction, dry grass conditions watch for fire

1020 **BSB-AS** DTW-39.28' IPVC TD-45.60
Water Column - 6.32 Casing-2"
3 Well Vols - 3.16 gallon

1025 - Begin purging using dedicated teflon bailer. Water clear to start out then got silty

Bailed 3.5 gallons - will let well sit a couple hours then sample

1510 Return to BSB-AS to collect samples

Old Landfill 9/12/11
Calibrate Meters
pH 4.01 → 4.00 Slp 96.5
7.00 - 7.02
10.01 - 10.04
SC - 1414 us/cm @ 21.6° on 1413 standard
ORP 236.4 on Zobells
DO - 100 and 00% salinity

1515 Collect BSB-GW-03 from BSB-AS

1-1 L HDPE, Raw for pH, SC, Cl⁻, SO_4^{-2}
1-250 ml HDPE, NaOH for CN⁻
1-250 ml HDPE, H_2SO_4 for NO_2/NO_3, COD
2-~~2~~1 L amber glass, Raw for SVOC
2-1 L amber glass, Raw for Herbicides
3-40 mL amber vials, HCL, for VOC-8260

1050 Arrive @ **MBMG-2**
DTW-13.31' IPVC. TD-23.25'
Water Column - 9.95 Casing - 2"
3 Well Vols - 4.97 Gallons

1120 Begin purging using 3 stage 12 volt submersible pump w/dedicated teflon tubing. Carry battery is

9/12/11 Old Landfill

used to power pump. Pump is set at 18' and turned down to purge at approx 250 ml/min

Initial Drawdown - 13.42'
Final Drawdown - 13.42'
Purged 8 gallons prior to sampling
water mostly clear throughout
Field parameters on field data sheet
1225 Collect BSB-GW-01
1-250 ml, HDPE, HNO_3, Filtered for Diss Metals
1-250 ml, HDPE, NaOH for CN^-
1-250 ml HDPE, H_2SO_4 - NO_2/NO_3, COD
1-1 L HDPE, Raw - Cl^-, SO_4^{-2}, pH, SC
2-1 L Amber glass, Raw - Herbicides
2-1 L Amber glass, Raw - SVOCs
3-40 ml amber vials, HCL for VOC, 8260

Decon'ed Pump

1330 Arrive @ BSB-A1
DTW - 34.98' TPVC TD - 52.0 TPVC
Water Column - 17.02' Casing - 2"
3 Well Vols - 8.5 gallons

Old Landfill 9/12/11

1430 Begin purging using 3-stage
12 volt submersible pump w/dedicated
teflon tubing and car battery. Pump
is set @ 47' and well is being purged
@ approx 100 ml/min - turned down
w/flow restrictor

Field parameters on field data sheet

Initial drawdown - 36.39'
Final drawdown - 35.63

Water stayed clear throughout
Purged 2.6 gallons prior to sampling

1600 Begin collecting BSB-GW-02
1-1 L HDPE, Raw - pH, SC, Cl^-, SO_4^{-2}
1-250 ml HDPE, H_2SO_4 - NO_2/NO_3, COD
1-250 ml HDPE, NaOH - CN^-
2-1 L amber glass, Raw - Herbicides
2-1 L amber glass, Raw - SVOC
3-40 ml amber glass, HCL - VOCs, 8260

Finished collecting @ 1705
Pulled pump & decon'ed
1725 Off-site for day

9/13/11 Old Landfill

0945 Arrive @ site
J. Flammang - PB
Smoky, clear, calm, 53°F

Safety Topics: Smoke - no heavy exertion - carrying battery - parking in parking lot, along road

950 BSB-MoR, DTW - ~~50.55~~ 50.67
TD - 59.75 Water Column - 9.08
Casing - 2", 3 Well Vols - 4.5 Gal

Initial Drawdown - 51.10'

1023 Begin purging using 3 stage 12 volt submersible pump w/dedicated teflon tubing. Pump is set at approx 57'. Purging @ 150 ml/min turned down

Water is contained for disposal @ water treatment
Water is rusty colored - silty.

Field parameters on field data sheet

Old Landfill 9/13/11

Calibrate meters
pH 4.01 → 4.02 slp 97.9 / 98.3
7.00 7.05
10.01 → 10.02
SC → 1411 @ 16.2
ORP 256.2 on Zobell's @ 15.7%
DO - 5200 @ 0.0% salinity

Total gallons purged - 2.65
Final Drawdown - 51.09

1130 Collect BSB-GW-CF
2-1 L amber glass, Raw, Herbicides 815
2-1 L amber glass, Raw, SVOC 8270
3-40 ml glass amber vials, HCL, VOCs, 8260
1-1 L HDPE, raw - SC, pH, Cl^-, SO_4^{-2}
1-250 ml HDPE, H_2SO_4 - NO_3/NO_2, COD
1-250 ml HDPE, ~~HNO_3~~ NaOH - CN^-

Pull pump & Decon

1230 Arrive @ OK-2
DTW - 39.23 PVC TD - 46.90
Water Column - 7.67 Casing - 2"
3 Well Vols - 3.85 gallons

9/13/11 Clarks Tailings

1258 Begin purging using 3 stage 12 volt submersible pump w/ carry battery. Pump is set at 45' and purging @ .25 gal min

Initial Drawdown - 39.37'
Water is clear
Total Gallons purged: 5.5 gal
Field Parameters on field data sheet
~~Collected~~
1325 Collect BSB-GW-06
1-1 L HDPE, Raw for pH, SC, Cl^-, SO_4^{-2}
1-250 ml HDPE, Filt/HNO3 for DM

Final Drawdown - 39.45

Pulled pump & deconned
1405 - C.J. Kissel PTS on site
Arrive @ CLK-1
DTW - 3.64 TOC TD - 19.00
Water ~~Column~~ Column - 15.36 Casing - 2"
3 Well Vol. - 7.75 Gallon

Clarks Tailings 9/13/11

1408 Begin purging using 3 stage 12 volt submersible pump w/ carry battery. Pump is set at 17' and purging @ 0.5 GPM

Initial Drawdown - 3.94' TPVC
Water is kind of orangish.

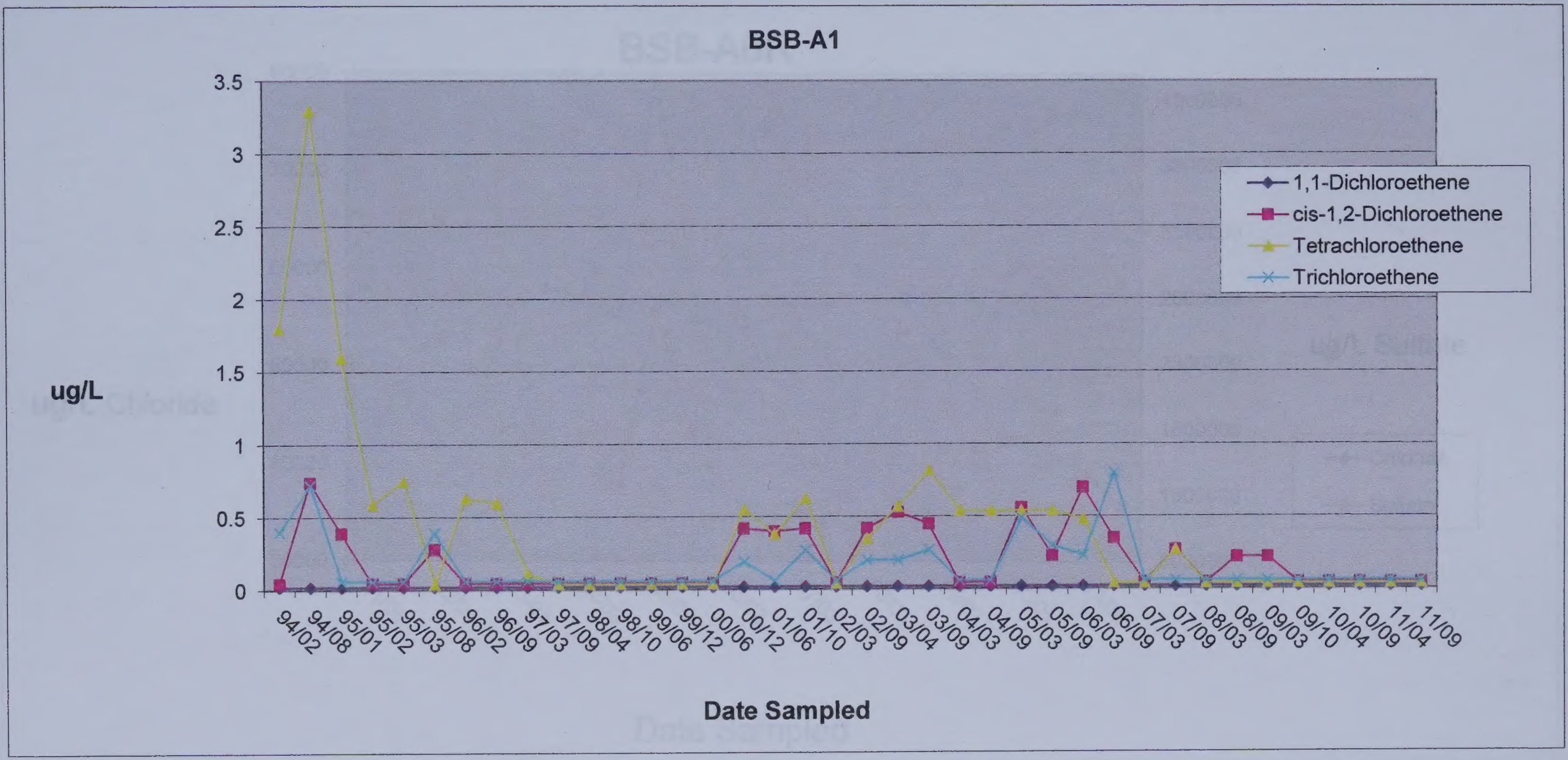
1434 Collect BSB-GW-05
1-1 L HDPE, Raw - SC, pH, Cl^-, SO_4^{-2}
1 250 ml HDPE, Filt/HNO3 for Diss Metal

Field Parameters on Field Data Sheet

Final Drawdown - 3.94

Pull Pump & clean

1500 Off-site for day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3
2.5
2
1.5
1
0.5
0
ug/L
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cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
94/02
94/08
95/01
95/02
95/03
95/08
96/02
96/09
97/03
97/09
98/04
98/10
99/06
99/12
00/06
00/12
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01/10
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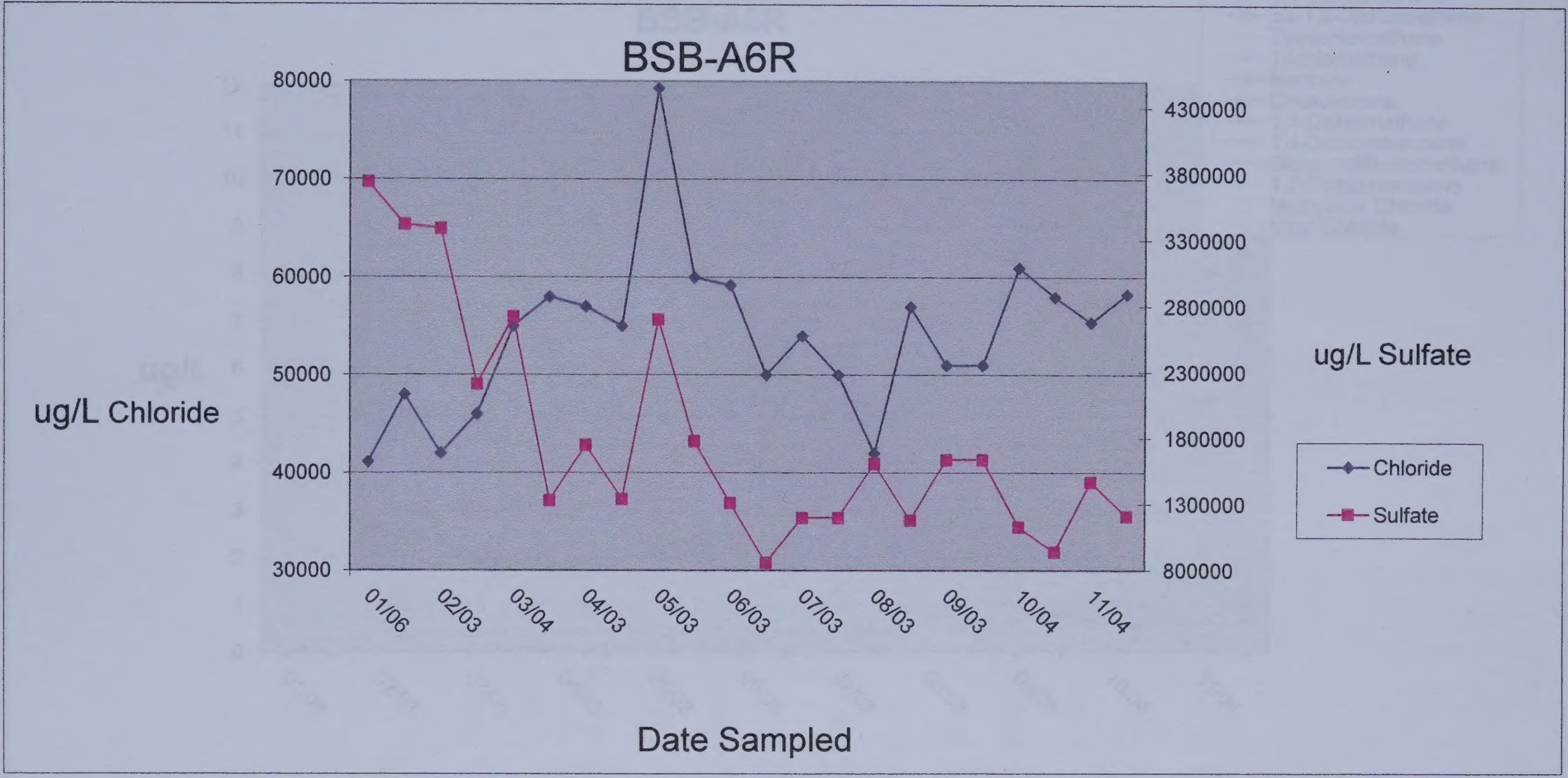
10/09
11/04
11/09
Date Sampled


BSB-A6R
ug/L Chloride
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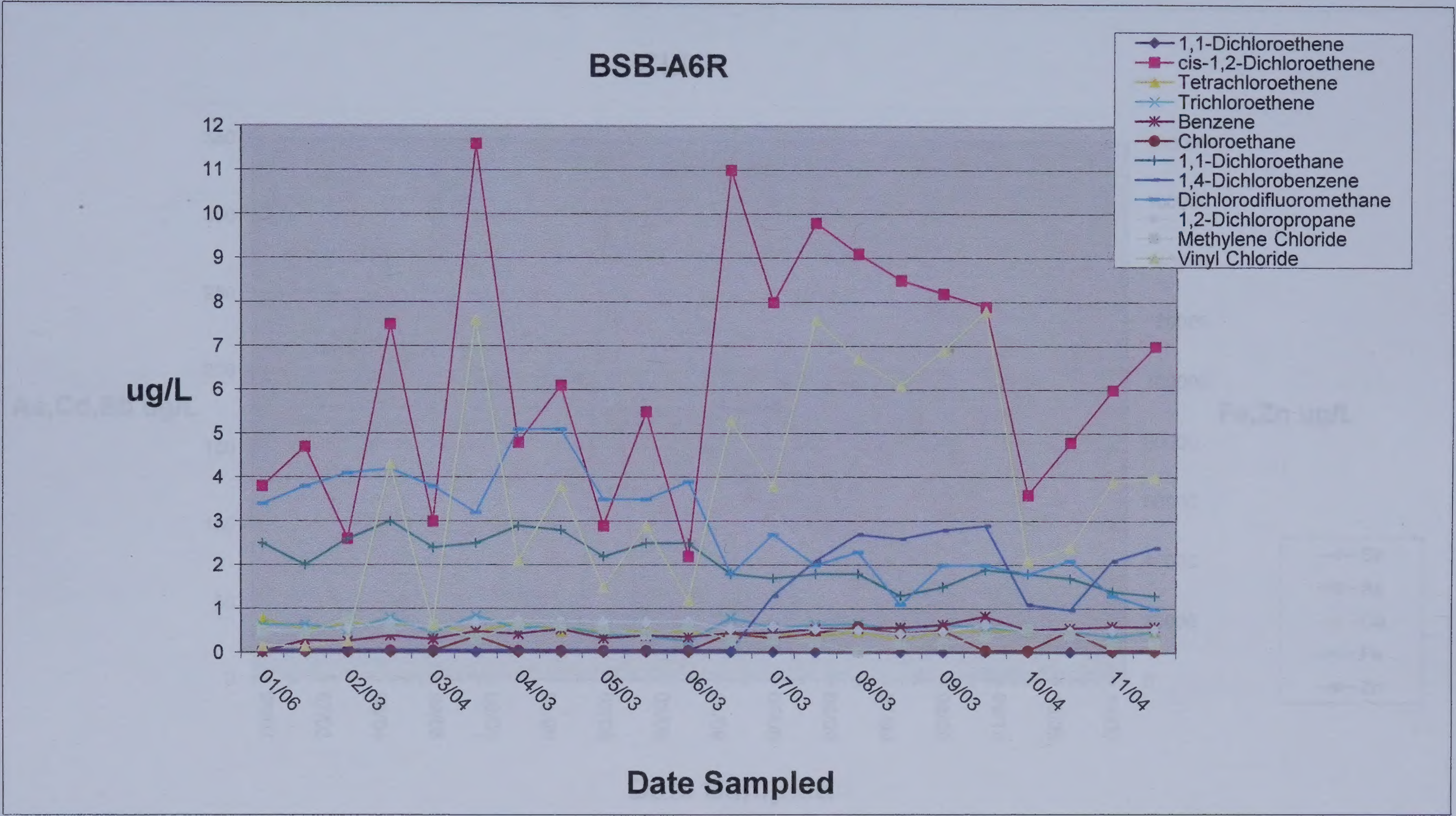
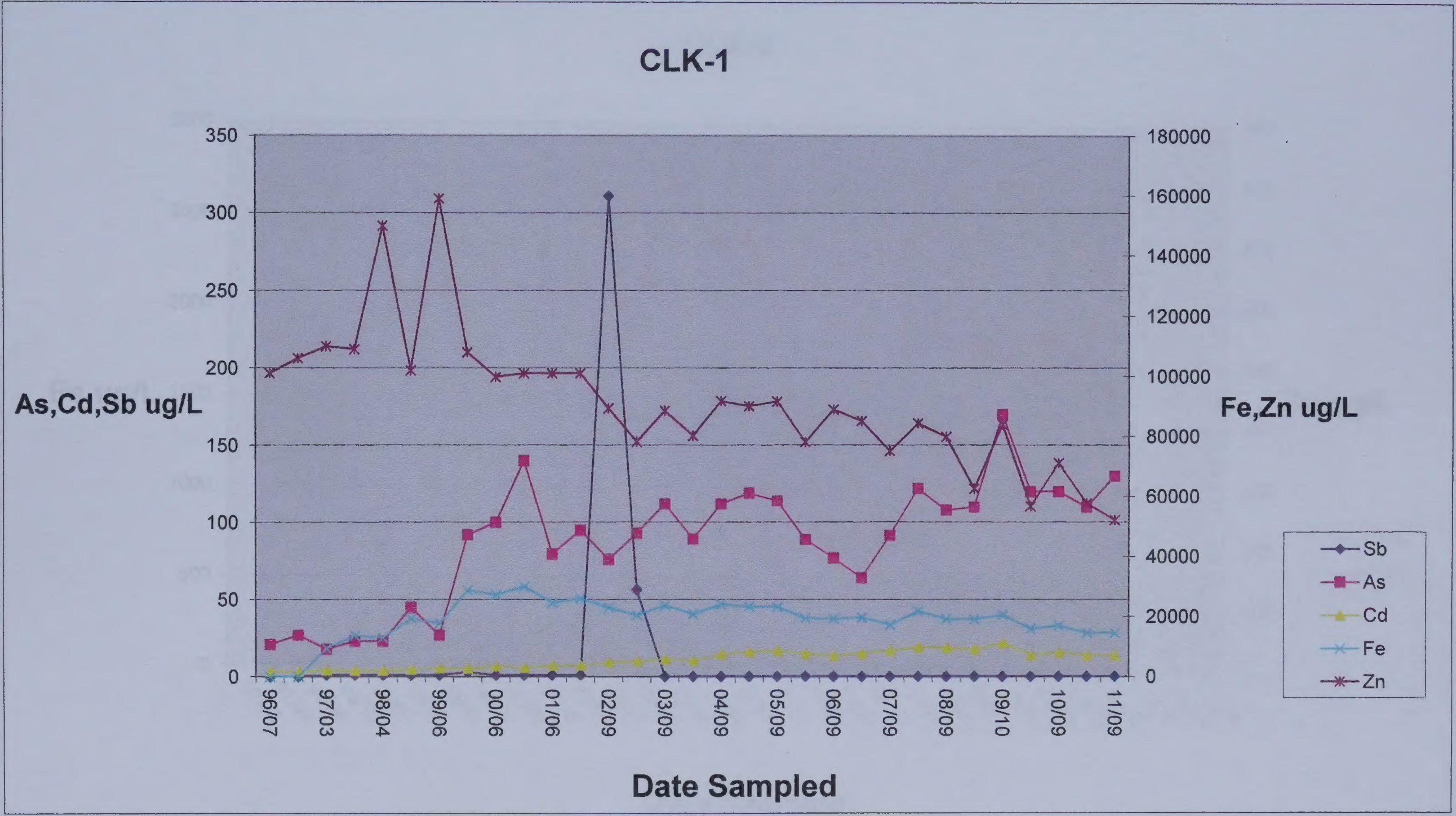
70000
60000
50000
40000
30000
4300000
3800000
3300000
2800000
2300000
1800000
1300000
800000
ug/L Sulfate
Chloride
Sulfate
01/06
02/03
03/04
04/03
05/03
06/03
07/03
08/03
09/03
10/04
11/04
Date Sampled


BSB-A6R
ug/L
12
11
10
9
8
7
6
5
4
3
2
1
0
01/06
02/03
03/04
04/03
05/03
06/03
07/03
08/03
09/03
10/04
11/04
Date Sampled
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
Benzene
Chloroethane
1,1-Dichloroethane
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,2-Dichloropropane
Methylene Chloride
Vinyl Chloride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As,Cd,Sb ug/L
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300
250
200
150
100
50
0
Fe,Zn ug/L
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
96/07
97/03
98/04
99/06
00/06
01/06
02/09
03/09
04/09
05/09
06/09
07/09
08/09
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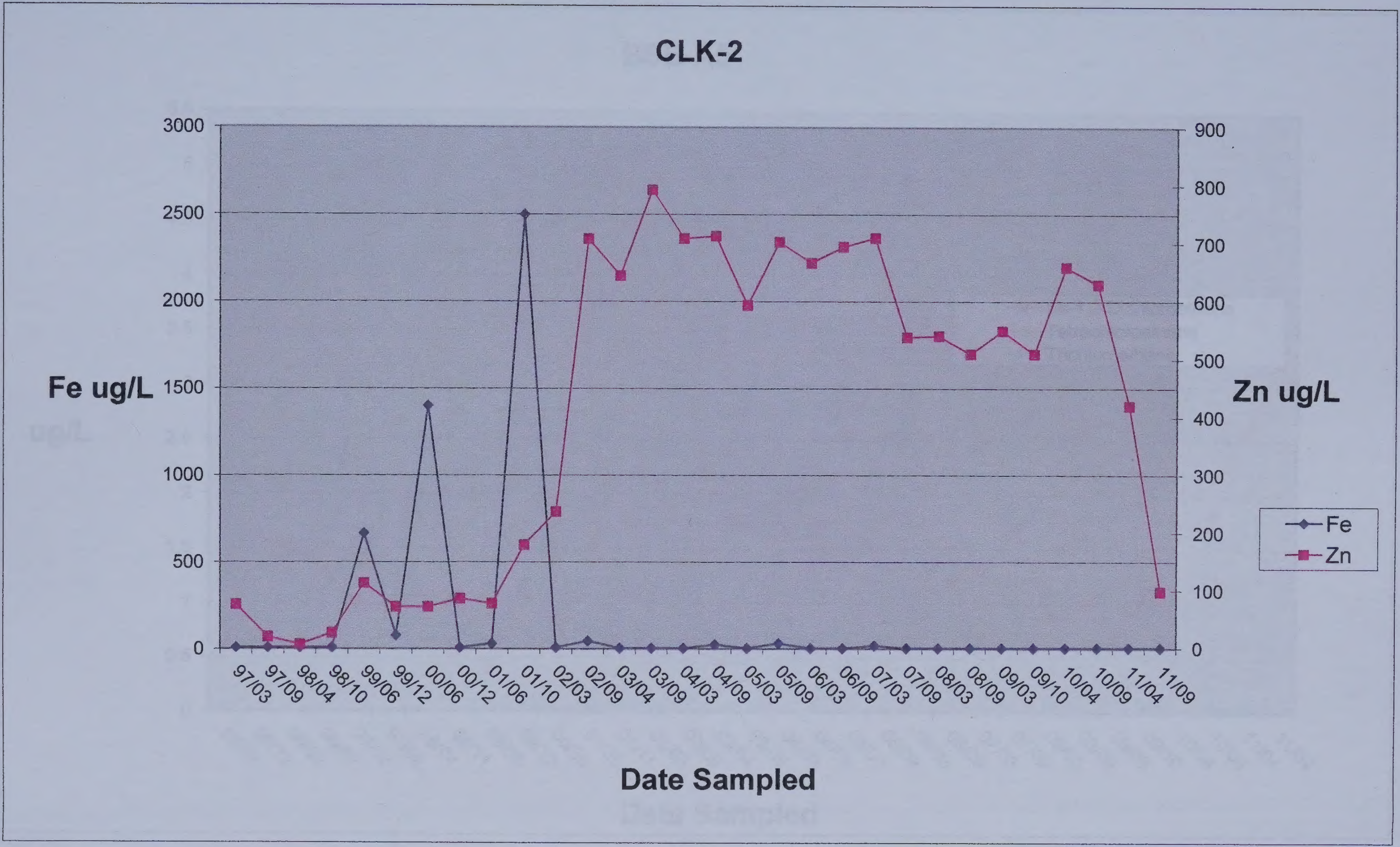
Date Sampled
Sb
As
Cd
Fe
Zn


CLK-2
Fe ug/L
Zn ug/L
3000
2500
2000
1500
1000
500
0
900
800
700
600
500
400
300
200
100
0
Fe
Zn
97/03
97/09
98/04
98/10
99/06
99/12
00/06
00/12
01/06
01/10
02/03
02/09
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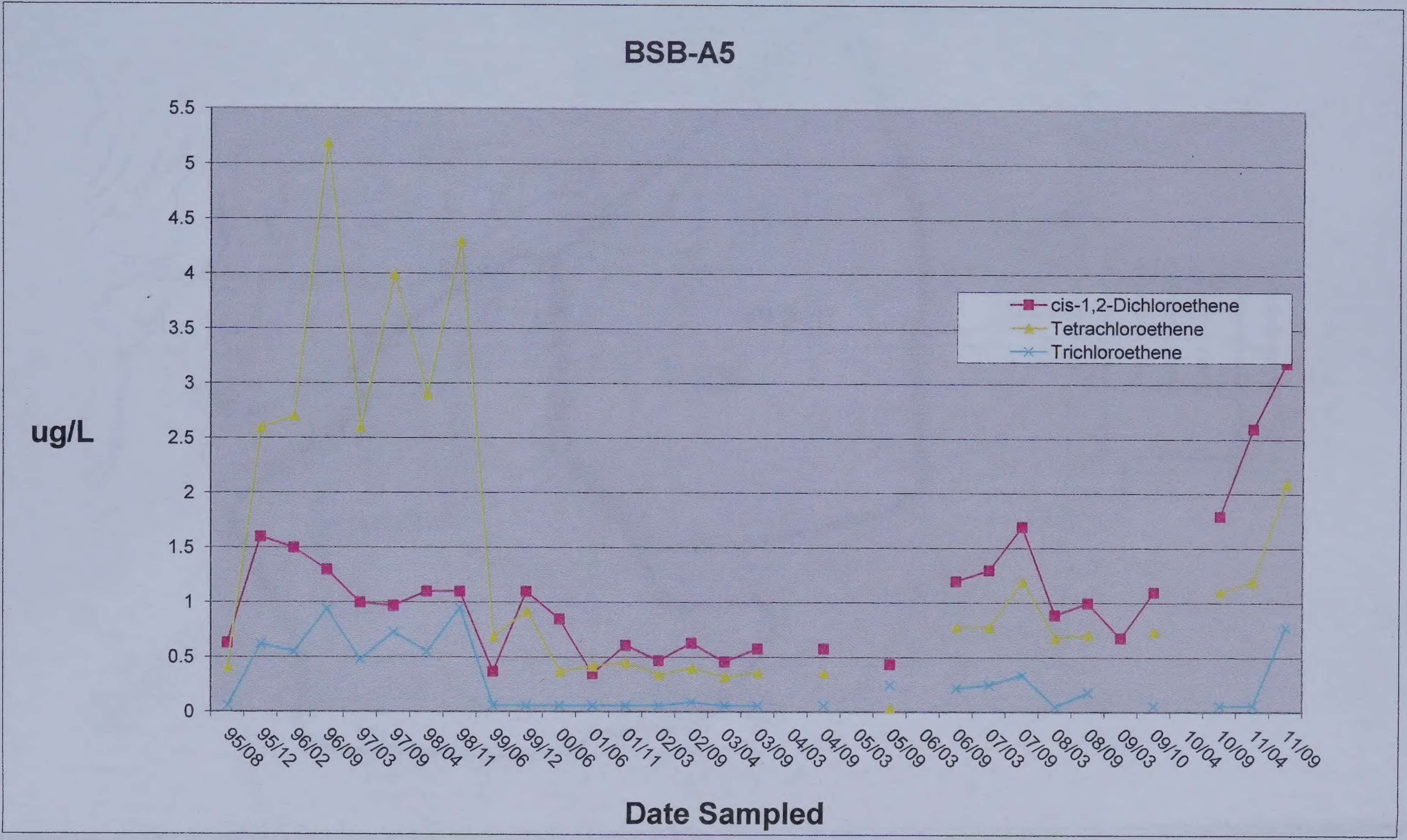
10/09
11/04
11/09
Date Sampled


BSB-A5
ug/L
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
95/08
95/12
96/02
96/09
97/03
97/09
98/04
98/11
99/06
99/12
00/06
01/06
01/11
02/03
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09/10
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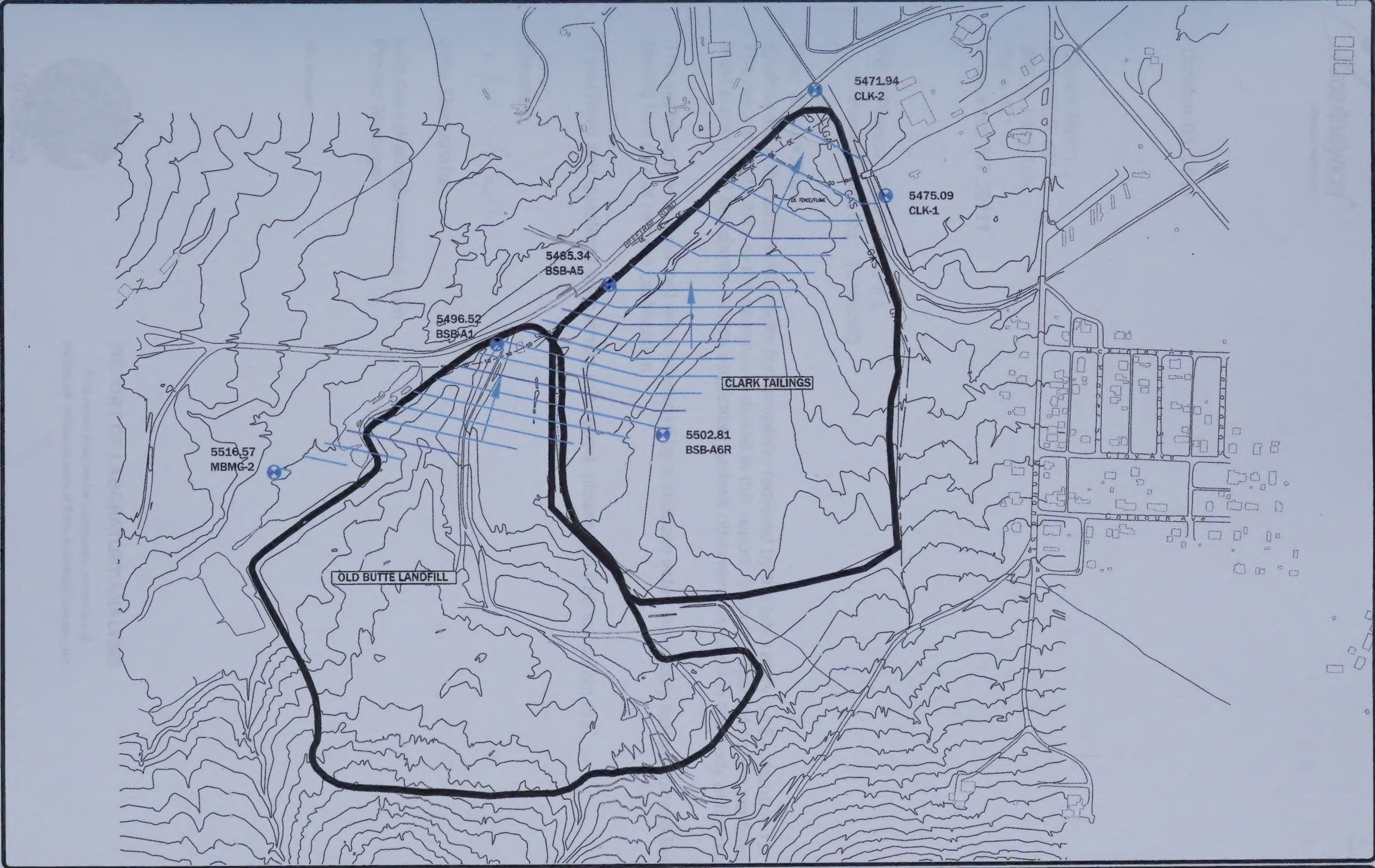
10/09
11/04
11/09
Date Sampled
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene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CLK-1
5485.34
BSB-A5
5496.52
BSB-A1
5516.57
MBMG-2
5502.81
BSB-A6R
CLARK TAILINGS
OLD BUTTE LANDFILL
McKinley Ave
Calhoun Ave

LEGEND

CLK-1 ● MONITORING WELL

—— CONTOUR

CONTOUR INTERVAL= 10'

DISPLAYED AS:	
COORD SYS/ZONE:	NA
DATUM:	NA
UNITS:	FEET
SOURCE:	PIONEER

SCALE IN FEET
0 300 600

FIGURE 1

OLD MUNICIPAL
LANDFILL SITE/CLARK
TAILINGS FACILITY
SEPTEMBER 2011

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 12/2/11

12/2/2011 9:48:52 AM P:\BUTTE-SILVER BOW\BSB OLD LANDFILL\OLD LANDFILL\2011\DRAWINGS\OLDLNDFL-FG-PLN-002-11.DWG

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

October 03, 2011

Shawn Bisch
PIONEER-MT
307 E. Park Ave
Suite 421
Anaconda, MT 59711

RE: Project: OLD LANDFILL
Pace Project No.: 10169563

Dear Shawn Bisch:

Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

This report contains data that were produced by a subcontracted laboratory that performed fields of testing that do not require certification.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Julie Thieschafer

julie.thieschafer@pacelabs.com
Project Manager

Enclosures

CERTIFICATIONS

Project:	OLD LANDFILL
Pace Project No.:	10169563

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL1264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
Virginia Certification #: 00432
Wyoming Certification: FL NELAC Reciprocity

SAMPLE SUMMARY

Project: OLD LANDFILL
Pace Project No.: 10169563

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10169563001	**BSB-GW-01**	Water	09/12/11 12:25	09/15/11 10:00
10169563002	**BSB-GW-02**	Water	09/12/11 15:15	09/15/11 10:00
10169563003	**BSB-GW-03**	Water	09/12/11 16:00	09/15/11 10:00
10169563004	**BSB-GW-04**	Water	09/13/11 00:00	09/15/11 10:00
10169563005	**Trip Blank**	Water	09/12/11 00:00	09/15/11 10:00

SAMPLE ANALYTE COUNT

Project: OLD LANDFILL
Pace Project No.: 10169563

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10169563001	**BSB-GW-01**	EPA 8151	LJM	12	PASI-O
		EPA 200.8	TL1	16	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 8260	ECB	55	PASI-M
		EPA 120.1	RLB	1	PASI-M
		SM 4500-H+B	RLB	1	PASI-M
		EPA 353.2	MWD	1	PASI-M
		EPA 410.4	MWD	1	PASI-M
		ASTM D516-02	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	MWD	1	PASI-M
10169563002	**BSB-GW-02**	EPA 8151	LJM	12	PASI-O
		EPA 8260	ECB	55	PASI-M
		EPA 120.1	RLB	1	PASI-M
		SM 4500-H+B	RLB	1	PASI-M
		EPA 353.2	MWD	1	PASI-M
		EPA 410.4	MWD	1	PASI-M
		ASTM D516-02	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	MWD	1	PASI-M
10169563003	**BSB-GW-03**	EPA 8151	LJM	12	PASI-O
		EPA 8260	ECB	55	PASI-M
		EPA 120.1	RLB	1	PASI-M
		SM 4500-H+B	RLB	1	PASI-M
		EPA 353.2	MWD	1	PASI-M
		EPA 410.4	MWD	1	PASI-M
		ASTM D516-02	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	MWD	1	PASI-M
10169563004	**BSB-GW-04**	EPA 8151	LJM	12	PASI-O
		EPA 8260	ECB	55	PASI-M
		EPA 120.1	RLB	1	PASI-M
		SM 4500-H+B	RLB	1	PASI-M
		EPA 353.2	MWD	1	PASI-M
		EPA 410.4	MWD	1	PASI-M
		ASTM D516-02	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M

SAMPLE ANALYTE COUNT

Project: OLD LANDFILL
Pace Project No.: 10169563

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10169563005	Trip Blank	SM 4500-CN-E	MWD	1	PASI-M
		EPA 8260	ECB	55	PASI-M

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **EPA 8151**
Description: 8151 Chlorinated Herbicides
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
4 samples were analyzed for EPA 8151. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
1 sample was analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/28519

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10169546001,10169740002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1057652)
  - Barium, Dissolved

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1057650)
  - Iron, Dissolved
  - Silver, Dissolved
  - Zinc, Dissolved
- MSD (Lab ID: 1057651)
  - Iron, Dissolved
  - Silver, Dissolved
  - Zinc, Dissolved

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: October 03, 2011

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **EPA 245.1**
Description: 245.1 Mercury, Dissolved
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
1 sample was analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MERP/6017

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10169546002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1061598)
  - Mercury, Dissolved
- MSD (Lab ID: 1061599)
  - Mercury, Dissolved

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **EPA 8260**
Description: 8260 MSV
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
5 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **EPA 120.1**
Description: 120.1 Specific Conductance
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
4 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

B: Analyte was detected in the associated method blank.
- BSB-GW-01 (Lab ID: 10169563001)
- BSB-GW-02 (Lab ID: 10169563002)
- BSB-GW-03 (Lab ID: 10169563003)
- BSB-GW-04 (Lab ID: 10169563004)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: WET/23579

B: Analyte was detected in the associated method blank.
- BSB-GW-01 (Lab ID: 10169563001)
  - Specific Conductance
- BSB-GW-02 (Lab ID: 10169563002)
  - Specific Conductance
- BSB-GW-03 (Lab ID: 10169563003)
  - Specific Conductance
- BSB-GW-04 (Lab ID: 10169563004)
  - Specific Conductance

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
4 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated more than 15 minutes after sample collection.
- BSB-GW-01 (Lab ID: 10169563001)
- BSB-GW-02 (Lab ID: 10169563002)
- BSB-GW-03 (Lab ID: 10169563003)
- BSB-GW-04 (Lab ID: 10169563004)

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **EPA 353.2**
Description: 353.2 Nitrate + Nitrite pres.
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
4 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10169563

Method: **EPA 410.4**
Description: 410.4 COD
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
4 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/11080

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10169447004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1057628)
  - Chemical Oxygen Demand

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10169563

Method: **ASTM D516-02**
Description: ASTM D516-90 Sulfate Water
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
4 samples were analyzed for ASTM D516-02. All samples were received in acceptable condition with any exceptions noted below.

B: Analyte was detected in the associated method blank.
- BSB-GW-01 (Lab ID: 10169563001)
- BSB-GW-02 (Lab ID: 10169563002)
- BSB-GW-03 (Lab ID: 10169563003)
- BSB-GW-04 (Lab ID: 10169563004)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/11075

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10168523009,10169563001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- MS (Lab ID: 1056791)
  - Sulfate
- MSD (Lab ID: 1056790)
  - Sulfate
- MSD (Lab ID: 1056792)
  - Sulfate

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **ASTM D516-02**
Description: ASTM D516-90 Sulfate Water
Client: BPAR-PIONEER-MT
Date: October 03, 2011

Analyte Comments:

QC Batch: WETA/11075

B: Analyte was detected in the associated method blank.

- BSB-GW-01 (Lab ID: 10169563001)
  - Sulfate
- BSB-GW-02 (Lab ID: 10169563002)
  - Sulfate
- BSB-GW-03 (Lab ID: 10169563003)
  - Sulfate
- BSB-GW-04 (Lab ID: 10169563004)
  - Sulfate

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10169563

Method: **SM 4500-Cl E**
Description: SM4500Cl-E Chloride
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
4 samples were analyzed for SM 4500-Cl E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10169563

Method: **SM 4500-CN-E**
Description: SM4500CN-E Cyanide
Client: BPAR-PIONEER-MT
Date: October 03, 2011

General Information:
4 samples were analyzed for SM 4500-CN-E. All samples were received in acceptable condition with any exceptions noted below.

B: Analyte was detected in the associated method blank.
- BSB-GW-03 (Lab ID: 10169563003)
- BSB-GW-04 (Lab ID: 10169563004)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: WETA/11094

B: Analyte was detected in the associated method blank.
- BSB-GW-03 (Lab ID: 10169563003)
  - Cyanide
- BSB-GW-04 (Lab ID: 10169563004)
  - Cyanide

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: BSB-GW-01 **Lab ID: 10169563001** Collected: 09/12/11 12:25 Received: 09/15/11 10:00 Matrix: Water

MBMG-2

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8151 Chlorinated Herbicides	Analytical Method: EPA 8151								
Bentazon	ND	ug/L	0.096	0.016	1	09/19/11 14:00	09/28/11 23:15	25057-89-0	
2,4-D	ND	ug/L	0.96	0.23	1	09/19/11 14:00	09/28/11 23:15	94-75-7	
Dalapon	ND	ug/L	0.93	0.44	1	09/19/11 14:00	09/28/11 23:15	127-20-8	
2,4-DB	ND	ug/L	1.9	0.52	1	09/19/11 14:00	09/28/11 23:15	94-82-6	
Dicamba	ND	ug/L	0.096	0.031	1	09/19/11 14:00	09/28/11 23:15	1918-00-9	
Dichlorprop	ND	ug/L	0.67	0.19	1	09/19/11 14:00	09/28/11 23:15	120-36-5	
Dinoseb	ND	ug/L	0.19	0.058	1	09/19/11 14:00	09/28/11 23:15	88-85-7	
Pentachlorophenol	ND	ug/L	0.029	0.017	1	09/19/11 14:00	09/28/11 23:15	87-86-5	
Picloram	ND	ug/L	0.096	0.019	1	09/19/11 14:00	09/28/11 23:15	1918-02-1	
2,4,5-T	ND	ug/L	0.19	0.043	1	09/19/11 14:00	09/28/11 23:15	93-76-5	
2,4,5-TP (Silvex)	ND	ug/L	0.19	0.050	1	09/19/11 14:00	09/28/11 23:15	93-72-1	
2,4-DCPA (S)	84	%	65.5-125.7		1	09/19/11 14:00	09/28/11 23:15	19719-28-9	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	**0.000089J**	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/23/11 13:03	7440-36-0	
Arsenic, Dissolved	**0.0013**	mg/L	0.00050	0.000090	1	09/20/11 15:19	09/23/11 13:03	7440-38-2	
Barium, Dissolved	**0.15**	mg/L	0.00030	0.000080	1	09/20/11 15:19	09/23/11 13:03	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000020	1	09/20/11 15:19	09/23/11 13:03	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.000080	0.000030	1	09/20/11 15:19	09/23/11 13:03	7440-43-9	
Chromium, Dissolved	**0.00037J**	mg/L	0.00050	0.00010	1	09/20/11 15:19	09/23/11 13:03	7440-47-3	
Cobalt, Dissolved	ND	mg/L	0.00050	0.00025	1	09/20/11 15:19	09/23/11 13:03	7440-48-4	
Copper, Dissolved	**0.0011**	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/23/11 13:03	7440-50-8	
Iron, Dissolved	**0.44**	mg/L	0.050	0.0047	1	09/20/11 15:19	09/23/11 13:03	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000050	1	09/20/11 15:19	09/23/11 13:03	7439-92-1	
Nickel, Dissolved	**0.00013J**	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/23/11 13:03	7440-02-0	
Selenium, Dissolved	**0.00066**	mg/L	0.00050	0.00022	1	09/20/11 15:19	09/23/11 13:03	7782-49-2	
Silver, Dissolved	ND	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/23/11 13:03	7440-22-4	
Thallium, Dissolved	ND	mg/L	0.00010	0.000050	1	09/20/11 15:19	09/23/11 13:03	7440-28-0	
Vanadium, Dissolved	**0.0072**	mg/L	0.00010	0.000050	1	09/20/11 15:19	09/23/11 13:03	7440-62-2	
Zinc, Dissolved	**0.0032J**	mg/L	0.0050	0.0025	1	09/20/11 15:19	09/23/11 13:03	7440-66-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	ND	mg/L	0.00020	0.000037	1	09/23/11 20:54	09/28/11 14:39	7439-97-6	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	12.5	1		09/22/11 16:07	67-64-1	
Acetonitrile	ND	ug/L	40.0	20.0	1		09/22/11 16:07	75-05-8	
Benzene	ND	ug/L	1.0	0.36	1		09/22/11 16:07	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.22	1		09/22/11 16:07	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.23	1		09/22/11 16:07	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		09/22/11 16:07	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/22/11 16:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	4.0	2.0	1		09/22/11 16:07	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.21	1		09/22/11 16:07	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.38	1		09/22/11 16:07	56-23-5	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: BSB-GW-01 **Lab ID: 10169563001** Collected: 09/12/11 12:25 Received: 09/15/11 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Chlorobenzene	ND	ug/L	1.0	0.33	1		09/22/11 16:07	108-90-7	
Chloroethane	ND	ug/L	1.0	0.32	1		09/22/11 16:07	75-00-3	
Chloroform	ND	ug/L	1.0	0.34	1		09/22/11 16:07	67-66-3	
Chloromethane	ND	ug/L	4.0	0.36	1		09/22/11 16:07	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1.2	1		09/22/11 16:07	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.36	1		09/22/11 16:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.26	1		09/22/11 16:07	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.48	1		09/22/11 16:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.31	1		09/22/11 16:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.40	1		09/22/11 16:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.34	1		09/22/11 16:07	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.67	1		09/22/11 16:07	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.23	1		09/22/11 16:07	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.23	1		09/22/11 16:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/22/11 16:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.47	1		09/22/11 16:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.37	1		09/22/11 16:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	4.0	0.21	1		09/22/11 16:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.41	1		09/22/11 16:07	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.27	1		09/22/11 16:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		09/22/11 16:07	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.38	1		09/22/11 16:07	100-41-4	
2-Hexanone	ND	ug/L	4.0	0.54	1		09/22/11 16:07	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		09/22/11 16:07	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		09/22/11 16:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	4.0	2.0	1		09/22/11 16:07	108-10-1	
Styrene	ND	ug/L	1.0	0.35	1		09/22/11 16:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.35	1		09/22/11 16:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.17	1		09/22/11 16:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.26	1		09/22/11 16:07	127-18-4	
Toluene	ND	ug/L	1.0	0.39	1		09/22/11 16:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		09/22/11 16:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.38	1		09/22/11 16:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.20	1		09/22/11 16:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.30	1		09/22/11 16:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.25	1		09/22/11 16:07	96-18-4	
Vinyl acetate	ND	ug/L	10.0	1.9	1		09/22/11 16:07	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.17	1		09/22/11 16:07	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.1	1		09/22/11 16:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/22/11 16:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.46	1		09/22/11 16:07	95-47-6	
Dibromofluoromethane (S)	106	%	75-125		1		09/22/11 16:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	75-125		1		09/22/11 16:07	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/22/11 16:07	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		09/22/11 16:07	460-00-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: BSB-GW-01 **Lab ID: 10169563001** Collected: 09/12/11 12:25 Received: 09/15/11 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**904**	umhos/cm	1.0	0.50	1		09/22/11 10:11		B
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.050	1		09/28/11 08:35		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**7.5**	mg/L	0.10	0.050	1		09/20/11 15:09		
410.4 COD	Analytical Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	25.0	1		09/20/11 08:16		
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-02								
Sulfate	**141**	mg/L	25.0	2.7	10		09/19/11 13:01	14808-79-8	B,M6
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**58.9**	mg/L	4.0	1.7	2		09/20/11 12:26	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E								
Cyanide	ND	ug/L	10.0	5.0	1		09/23/11 16:09	57-12-5	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: BSB-GW-02 **Lab ID: 10169563002** Collected: 09/12/11 15:15 Received: 09/15/11 10:00 Matrix: Water

BSB-A1

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8151 Chlorinated Herbicides	Analytical Method: EPA 8151								
Bentazon	ND	ug/L	0.10	0.018	1	09/19/11 14:00	09/28/11 23:51	25057-89-0	
2,4-D	ND	ug/L	1.0	0.25	1	09/19/11 14:00	09/28/11 23:51	94-75-7	
Dalapon	ND	ug/L	1.0	0.48	1	09/19/11 14:00	09/28/11 23:51	127-20-8	
2,4-DB	ND	ug/L	2.1	0.56	1	09/19/11 14:00	09/28/11 23:51	94-82-6	
Dicamba	ND	ug/L	0.10	0.033	1	09/19/11 14:00	09/28/11 23:51	1918-00-9	
Dichlorprop	ND	ug/L	0.72	0.21	1	09/19/11 14:00	09/28/11 23:51	120-36-5	
Dinoseb	ND	ug/L	0.21	0.063	1	09/19/11 14:00	09/28/11 23:51	88-85-7	
Pentachlorophenol	ND	ug/L	0.031	0.019	1	09/19/11 14:00	09/28/11 23:51	87-86-5	
Picloram	ND	ug/L	0.10	0.021	1	09/19/11 14:00	09/28/11 23:51	1918-02-1	
2,4,5-T	ND	ug/L	0.21	0.046	1	09/19/11 14:00	09/28/11 23:51	93-76-5	
2,4,5-TP (Silvex)	ND	ug/L	0.21	0.054	1	09/19/11 14:00	09/28/11 23:51	93-72-1	
2,4-DCPA (S)	104	%	65.5-125.7		1	09/19/11 14:00	09/28/11 23:51	19719-28-9	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	12.5	1		09/22/11 16:23	67-64-1	
Acetonitrile	ND	ug/L	40.0	20.0	1		09/22/11 16:23	75-05-8	
Benzene	ND	ug/L	1.0	0.36	1		09/22/11 16:23	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.22	1		09/22/11 16:23	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.23	1		09/22/11 16:23	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		09/22/11 16:23	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/22/11 16:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	4.0	2.0	1		09/22/11 16:23	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.21	1		09/22/11 16:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.38	1		09/22/11 16:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.33	1		09/22/11 16:23	108-90-7	
Chloroethane	ND	ug/L	1.0	0.32	1		09/22/11 16:23	75-00-3	
Chloroform	ND	ug/L	1.0	0.34	1		09/22/11 16:23	67-66-3	
Chloromethane	ND	ug/L	4.0	0.36	1		09/22/11 16:23	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1.2	1		09/22/11 16:23	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.36	1		09/22/11 16:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.26	1		09/22/11 16:23	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.48	1		09/22/11 16:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.31	1		09/22/11 16:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.40	1		09/22/11 16:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.34	1		09/22/11 16:23	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.67	1		09/22/11 16:23	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.23	1		09/22/11 16:23	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.23	1		09/22/11 16:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/22/11 16:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.47	1		09/22/11 16:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.37	1		09/22/11 16:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	4.0	0.21	1		09/22/11 16:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.41	1		09/22/11 16:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.27	1		09/22/11 16:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		09/22/11 16:23	10061-02-6	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: BSB-GW-02 **Lab ID: 10169563002** Collected: 09/12/11 15:15 Received: 09/15/11 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	1.0	0.38	1		09/22/11 16:23	100-41-4	
2-Hexanone	ND	ug/L	4.0	0.54	1		09/22/11 16:23	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		09/22/11 16:23	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		09/22/11 16:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	4.0	2.0	1		09/22/11 16:23	108-10-1	
Styrene	ND	ug/L	1.0	0.35	1		09/22/11 16:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.35	1		09/22/11 16:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.17	1		09/22/11 16:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.26	1		09/22/11 16:23	127-18-4	
Toluene	ND	ug/L	1.0	0.39	1		09/22/11 16:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		09/22/11 16:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.38	1		09/22/11 16:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.20	1		09/22/11 16:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.30	1		09/22/11 16:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.25	1		09/22/11 16:23	96-18-4	
Vinyl acetate	ND	ug/L	10.0	1.9	1		09/22/11 16:23	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.17	1		09/22/11 16:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.1	1		09/22/11 16:23	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/22/11 16:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.46	1		09/22/11 16:23	95-47-6	
Dibromofluoromethane (S)	106	%	75-125		1		09/22/11 16:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	75-125		1		09/22/11 16:23	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/22/11 16:23	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		09/22/11 16:23	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**474**	umhos/cm	1.0	0.50	1		09/22/11 10:13		B
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.050	1		09/28/11 08:39		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.32**	mg/L	0.10	0.050	1		09/20/11 15:10		
410.4 COD	Analytical Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	25.0	1		09/20/11 08:16		
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-02								
Sulfate	**71.1**	mg/L	12.5	1.4	5		09/19/11 12:15	14808-79-8	B
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**17.3**	mg/L	2.0	0.83	1		09/20/11 12:15	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E								
Cyanide	ND	ug/L	10.0	5.0	1		09/23/11 16:09	57-12-5	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: BSB-GW-03 **Lab ID: 10169563003** Collected: 09/12/11 16:00 Received: 09/15/11 10:00 Matrix: Water

BSB-AS

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8151 Chlorinated Herbicides	Analytical Method: EPA 8151								
Bentazon	ND	ug/L	0.11	0.018	1	09/19/11 14:00	09/29/11 00:28	25057-89-0	
2,4-D	ND	ug/L	1.1	0.25	1	09/19/11 14:00	09/29/11 00:28	94-75-7	
Dalapon	ND	ug/L	1.0	0.48	1	09/19/11 14:00	09/29/11 00:28	127-20-8	
2,4-DB	ND	ug/L	2.1	0.57	1	09/19/11 14:00	09/29/11 00:28	94-82-6	
Dicamba	ND	ug/L	0.11	0.034	1	09/19/11 14:00	09/29/11 00:28	1918-00-9	
Dichlorprop	ND	ug/L	0.73	0.21	1	09/19/11 14:00	09/29/11 00:28	120-36-5	
Dinoseb	ND	ug/L	0.21	0.064	1	09/19/11 14:00	09/29/11 00:28	88-85-7	
Pentachlorophenol	ND	ug/L	0.032	0.019	1	09/19/11 14:00	09/29/11 00:28	87-86-5	
Picloram	ND	ug/L	0.11	0.021	1	09/19/11 14:00	09/29/11 00:28	1918-02-1	
2,4,5-T	ND	ug/L	0.21	0.047	1	09/19/11 14:00	09/29/11 00:28	93-76-5	
2,4,5-TP (Silvex)	ND	ug/L	0.21	0.055	1	09/19/11 14:00	09/29/11 00:28	93-72-1	
2,4-DCPA (S)	91	%	65.5-125.7		1	09/19/11 14:00	09/29/11 00:28	19719-28-9	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	12.5	1		09/22/11 16:39	67-64-1	
Acetonitrile	ND	ug/L	40.0	20.0	1		09/22/11 16:39	75-05-8	
Benzene	ND	ug/L	1.0	0.36	1		09/22/11 16:39	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.22	1		09/22/11 16:39	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.23	1		09/22/11 16:39	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		09/22/11 16:39	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/22/11 16:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	4.0	2.0	1		09/22/11 16:39	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.21	1		09/22/11 16:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.38	1		09/22/11 16:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.33	1		09/22/11 16:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.32	1		09/22/11 16:39	75-00-3	
Chloroform	ND	ug/L	1.0	0.34	1		09/22/11 16:39	67-66-3	
Chloromethane	ND	ug/L	4.0	0.36	1		09/22/11 16:39	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1.2	1		09/22/11 16:39	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.36	1		09/22/11 16:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.26	1		09/22/11 16:39	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.48	1		09/22/11 16:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.31	1		09/22/11 16:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.40	1		09/22/11 16:39	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.34	1		09/22/11 16:39	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.67	1		09/22/11 16:39	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.23	1		09/22/11 16:39	75-71-8	
1,1-Dichloroethane	**0.25J**	ug/L	1.0	0.23	1		09/22/11 16:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/22/11 16:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.47	1		09/22/11 16:39	75-35-4	
cis-1,2-Dichloroethene	**3.2**	ug/L	1.0	0.37	1		09/22/11 16:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	4.0	0.21	1		09/22/11 16:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.41	1		09/22/11 16:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.27	1		09/22/11 16:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		09/22/11 16:39	10061-02-6	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: BSB-GW-03 **Lab ID: 10169563003** Collected: 09/12/11 16:00 Received: 09/15/11 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	1.0	0.38	1		09/22/11 16:39	100-41-4	
2-Hexanone	ND	ug/L	4.0	0.54	1		09/22/11 16:39	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		09/22/11 16:39	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		09/22/11 16:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	4.0	2.0	1		09/22/11 16:39	108-10-1	
Styrene	ND	ug/L	1.0	0.35	1		09/22/11 16:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.35	1		09/22/11 16:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.17	1		09/22/11 16:39	79-34-5	
Tetrachloroethene	**2.1**	ug/L	1.0	0.26	1		09/22/11 16:39	127-18-4	
Toluene	ND	ug/L	1.0	0.39	1		09/22/11 16:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		09/22/11 16:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.38	1		09/22/11 16:39	79-00-5	
Trichloroethene	**0.78J**	ug/L	1.0	0.20	1		09/22/11 16:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.30	1		09/22/11 16:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.25	1		09/22/11 16:39	96-18-4	
Vinyl acetate	ND	ug/L	10.0	1.9	1		09/22/11 16:39	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.17	1		09/22/11 16:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.1	1		09/22/11 16:39	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/22/11 16:39	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.46	1		09/22/11 16:39	95-47-6	
Dibromofluoromethane (S)	106	%	75-125		1		09/22/11 16:39	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	75-125		1		09/22/11 16:39	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/22/11 16:39	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/22/11 16:39	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1650**	umhos/cm	1.0	0.50	1		09/22/11 10:14		B
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.5**	Std. Units	0.10	0.050	1		09/28/11 08:40		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**4.2**	mg/L	0.10	0.050	1		09/20/11 15:14		
410.4 COD	Analytical Method: EPA 410.4								
Chemical Oxygen Demand	**41.8J**	mg/L	50.0	25.0	1		09/20/11 08:16		
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-02								
Sulfate	**682**	mg/L	125	13.5	50		09/19/11 12:27	14808-79-8	B
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**34.9**	mg/L	2.0	0.83	1		09/20/11 12:15	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E								
Cyanide	**5.9J**	ug/L	10.0	5.0	1		09/23/11 16:10	57-12-5	B

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: BSB-GW-04 **Lab ID: 10169563004** Collected: 09/13/11 00:00 Received: 09/15/11 10:00 Matrix: Water

BSB-A6R

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8151 Chlorinated Herbicides	Analytical Method: EPA 8151								
Bentazon	ND	ug/L	0.11	0.018	1	09/19/11 14:00	09/29/11 03:10	25057-89-0	
2,4-D	ND	ug/L	1.1	0.26	1	09/19/11 14:00	09/29/11 03:10	94-75-7	
Dalapon	ND	ug/L	1.0	0.49	1	09/19/11 14:00	09/29/11 03:10	127-20-8	
2,4-DB	ND	ug/L	2.2	0.59	1	09/19/11 14:00	09/29/11 03:10	94-82-6	
Dicamba	ND	ug/L	0.11	0.035	1	09/19/11 14:00	09/29/11 03:10	1918-00-9	
Dichlorprop	ND	ug/L	0.75	0.22	1	09/19/11 14:00	09/29/11 03:10	120-36-5	
Dinoseb	ND	ug/L	0.22	0.066	1	09/19/11 14:00	09/29/11 03:10	88-85-7	
Pentachlorophenol	ND	ug/L	0.033	0.020	1	09/19/11 14:00	09/29/11 03:10	87-86-5	
Picloram	ND	ug/L	0.11	0.022	1	09/19/11 14:00	09/29/11 03:10	1918-02-1	
2,4,5-T	ND	ug/L	0.22	0.048	1	09/19/11 14:00	09/29/11 03:10	93-76-5	
2,4,5-TP (Silvex)	ND	ug/L	0.22	0.056	1	09/19/11 14:00	09/29/11 03:10	93-72-1	
2,4-DCPA (S)	113	%	65.5-125.7		1	09/19/11 14:00	09/29/11 03:10	19719-28-9	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	12.5	1		09/22/11 16:58	67-64-1	
Acetonitrile	ND	ug/L	40.0	20.0	1		09/22/11 16:58	75-05-8	
Benzene	**0.59J**	ug/L	1.0	0.36	1		09/22/11 16:58	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.22	1		09/22/11 16:58	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.23	1		09/22/11 16:58	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		09/22/11 16:58	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/22/11 16:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	4.0	2.0	1		09/22/11 16:58	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.21	1		09/22/11 16:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.38	1		09/22/11 16:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.33	1		09/22/11 16:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.32	1		09/22/11 16:58	75-00-3	
Chloroform	ND	ug/L	1.0	0.34	1		09/22/11 16:58	67-66-3	
Chloromethane	ND	ug/L	4.0	0.36	1		09/22/11 16:58	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1.2	1		09/22/11 16:58	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.36	1		09/22/11 16:58	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.26	1		09/22/11 16:58	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.48	1		09/22/11 16:58	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.31	1		09/22/11 16:58	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.40	1		09/22/11 16:58	541-73-1	
1,4-Dichlorobenzene	**2.4**	ug/L	1.0	0.34	1		09/22/11 16:58	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.67	1		09/22/11 16:58	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.23	1		09/22/11 16:58	75-71-8	
1,1-Dichloroethane	**1.3**	ug/L	1.0	0.23	1		09/22/11 16:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/22/11 16:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.47	1		09/22/11 16:58	75-35-4	
cis-1,2-Dichloroethene	**7.0**	ug/L	1.0	0.37	1		09/22/11 16:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	4.0	0.21	1		09/22/11 16:58	156-60-5	
1,2-Dichloropropane	**0.53J**	ug/L	4.0	0.41	1		09/22/11 16:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.27	1		09/22/11 16:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		09/22/11 16:58	10061-02-6	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: BSB-GW-04 Lab ID: **10169563004** Collected: 09/13/11 00:00 Received: 09/15/11 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	1.0	0.38	1		09/22/11 16:58	100-41-4	
2-Hexanone	ND	ug/L	4.0	0.54	1		09/22/11 16:58	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		09/22/11 16:58	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		09/22/11 16:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	4.0	2.0	1		09/22/11 16:58	108-10-1	
Styrene	ND	ug/L	1.0	0.35	1		09/22/11 16:58	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.35	1		09/22/11 16:58	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.17	1		09/22/11 16:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.26	1		09/22/11 16:58	127-18-4	
Toluene	ND	ug/L	1.0	0.39	1		09/22/11 16:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		09/22/11 16:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.38	1		09/22/11 16:58	79-00-5	
Trichloroethene	**0.48J**	ug/L	1.0	0.20	1		09/22/11 16:58	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.30	1		09/22/11 16:58	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.25	1		09/22/11 16:58	96-18-4	
Vinyl acetate	ND	ug/L	10.0	1.9	1		09/22/11 16:58	108-05-4	
Vinyl chloride	**4.0**	ug/L	0.40	0.17	1		09/22/11 16:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.1	1		09/22/11 16:58	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/22/11 16:58	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.46	1		09/22/11 16:58	95-47-6	
Dibromofluoromethane (S)	106	%	75-125		1		09/22/11 16:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	75-125		1		09/22/11 16:58	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/22/11 16:58	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/22/11 16:58	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**2360**	umhos/cm	1.0	0.50	1		09/22/11 10:15		B
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.0**	Std. Units	0.10	0.050	1		09/28/11 08:41		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.050J**	mg/L	0.10	0.050	1		09/20/11 15:15		
410.4 COD	Analytical Method: EPA 410.4								
Chemical Oxygen Demand	**306**	mg/L	50.0	25.0	1		09/20/11 08:16		
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-02								
Sulfate	**1210**	mg/L	125	13.5	50		09/19/11 12:27	14808-79-8	B
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**58.3**	mg/L	2.0	0.83	1		09/20/11 12:16	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E								
Cyanide	**7.3J**	ug/L	10.0	5.0	1		09/23/11 16:10	57-12-5	B

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: Trip Blank **Lab ID: 10169563005** Collected: 09/12/11 00:00 Received: 09/15/11 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	12.5	1		09/22/11 17:14	67-64-1	
Acetonitrile	ND	ug/L	40.0	20.0	1		09/22/11 17:14	75-05-8	
Benzene	ND	ug/L	1.0	0.36	1		09/22/11 17:14	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.22	1		09/22/11 17:14	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.23	1		09/22/11 17:14	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		09/22/11 17:14	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/22/11 17:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	4.0	2.0	1		09/22/11 17:14	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.21	1		09/22/11 17:14	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.38	1		09/22/11 17:14	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.33	1		09/22/11 17:14	108-90-7	
Chloroethane	ND	ug/L	1.0	0.32	1		09/22/11 17:14	75-00-3	
Chloroform	ND	ug/L	1.0	0.34	1		09/22/11 17:14	67-66-3	
Chloromethane	ND	ug/L	4.0	0.36	1		09/22/11 17:14	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1.2	1		09/22/11 17:14	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.36	1		09/22/11 17:14	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.26	1		09/22/11 17:14	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.48	1		09/22/11 17:14	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.31	1		09/22/11 17:14	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.40	1		09/22/11 17:14	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.34	1		09/22/11 17:14	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.67	1		09/22/11 17:14	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.23	1		09/22/11 17:14	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.23	1		09/22/11 17:14	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/22/11 17:14	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.47	1		09/22/11 17:14	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.37	1		09/22/11 17:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	4.0	0.21	1		09/22/11 17:14	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.41	1		09/22/11 17:14	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.27	1		09/22/11 17:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		09/22/11 17:14	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.38	1		09/22/11 17:14	100-41-4	
2-Hexanone	ND	ug/L	4.0	0.54	1		09/22/11 17:14	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		09/22/11 17:14	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		09/22/11 17:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	4.0	2.0	1		09/22/11 17:14	108-10-1	
Styrene	ND	ug/L	1.0	0.35	1		09/22/11 17:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.35	1		09/22/11 17:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.17	1		09/22/11 17:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.26	1		09/22/11 17:14	127-18-4	
Toluene	ND	ug/L	1.0	0.39	1		09/22/11 17:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		09/22/11 17:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.38	1		09/22/11 17:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.20	1		09/22/11 17:14	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.30	1		09/22/11 17:14	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.25	1		09/22/11 17:14	96-18-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10169563

Sample: Trip Blank **Lab ID: 10169563005** Collected: 09/12/11 00:00 Received: 09/15/11 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	ug/L	10.0	1.9	1		09/22/11 17:14	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.17	1		09/22/11 17:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.1	1		09/22/11 17:14	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/22/11 17:14	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.46	1		09/22/11 17:14	95-47-6	
Dibromofluoromethane (S)	105	%	75-125		1		09/22/11 17:14	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	75-125		1		09/22/11 17:14	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		09/22/11 17:14	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/22/11 17:14	460-00-4	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: GCSV/5741
Analysis Method: EPA 8151
QC Batch Method: EPA 8151
Analysis Description: 8151A GCS Herbicides
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

METHOD BLANK: 256723
Matrix: Water
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-T	ug/L	ND	0.19	09/28/11 20:10	
2,4,5-TP (Silvex)	ug/L	ND	0.19	09/28/11 20:10	
2,4-D	ug/L	ND	0.94	09/28/11 20:10	
2,4-DB	ug/L	ND	1.9	09/28/11 20:10	
Bentazon	ug/L	ND	0.094	09/28/11 20:10	
Dalapon	ug/L	ND	0.91	09/28/11 20:10	
Dicamba	ug/L	ND	0.094	09/28/11 20:10	
Dichlorprop	ug/L	ND	0.65	09/28/11 20:10	
Dinoseb	ug/L	ND	0.19	09/28/11 20:10	
Pentachlorophenol	ug/L	ND	0.028	09/28/11 20:10	
Picloram	ug/L	ND	0.094	09/28/11 20:10	
2,4-DCPA (S)	%	97	65.5-125.7	09/28/11 20:10	

LABORATORY CONTROL SAMPLE & LCSD: 256724 256725

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2,4,5-T	ug/L	1.2	1.0	1.1	86	89	66.7-116.			
2,4,5-TP (Silvex)	ug/L	1.2	1.1	1.1	88	90	65.6-127.	2	40	
2,4-D	ug/L	6	5.2	5.2	87	86	62-135.6	1	40	
2,4-DB	ug/L	12	11.0	7.9	92	66	59.7-123.			
Bentazon	ug/L	.6	0.33	0.44	56	73	42.2-147.	28	40	
Dalapon	ug/L	6	5.3	3.7	88	62	40-123.3	34	40	
Dicamba	ug/L	.6	0.45	0.48	74	80	57.5-141.	7	40	
Dichlorprop	ug/L	4.2	3.0	3.0	72	72	50-150	.2	40	
Dinoseb	ug/L	1.2	0.80	0.85	66	71	44-111.8	7	40	
Pentachlorophenol	ug/L	.18	0.17	0.17	95	95	55.5-114	.3	40	
Picloram	ug/L	.6	0.44	0.45	74	74	39.3-88.8	.1	40	
2,4-DCPA (S)	%				90	84	65.5-125.			

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: MPRP/28519
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 10169563001

METHOD BLANK: 1057648
Matrix: Water
Associated Lab Samples: 10169563001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Arsenic, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Barium, Dissolved	mg/L	ND	0.00030	09/22/11 20:03	
Beryllium, Dissolved	mg/L	0.000028J	0.00020	09/22/11 20:03	
Cadmium, Dissolved	mg/L	ND	0.000080	09/22/11 20:03	
Chromium, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Cobalt, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Copper, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Iron, Dissolved	mg/L	ND	0.050	09/22/11 20:03	
Lead, Dissolved	mg/L	ND	0.00010	09/22/11 20:03	
Nickel, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Selenium, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Silver, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Thallium, Dissolved	mg/L	ND	0.00010	09/22/11 20:03	
Vanadium, Dissolved	mg/L	ND	0.00010	09/22/11 20:03	
Zinc, Dissolved	mg/L	ND	0.0050	09/22/11 20:03	

LABORATORY CONTROL SAMPLE: 1057649

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	.08	0.078	98	85-115	
Arsenic, Dissolved	mg/L	.08	0.078	98	85-115	
Barium, Dissolved	mg/L	.08	0.078	98	85-115	
Beryllium, Dissolved	mg/L	.08	0.074	93	85-115	
Cadmium, Dissolved	mg/L	.08	0.080	100	85-115	
Chromium, Dissolved	mg/L	.08	0.079	99	85-115	
Cobalt, Dissolved	mg/L	.08	0.078	98	85-115	
Copper, Dissolved	mg/L	.08	0.082	103	85-115	
Iron, Dissolved	mg/L	1	1.1	106	85-115	
Lead, Dissolved	mg/L	.08	0.080	100	85-115	
Nickel, Dissolved	mg/L	.08	0.083	104	85-115	
Selenium, Dissolved	mg/L	.08	0.078	97	85-115	
Silver, Dissolved	mg/L	.08	0.079	99	85-115	
Thallium, Dissolved	mg/L	.08	0.083	104	85-115	
Vanadium, Dissolved	mg/L	.08	0.079	98	85-115	
Zinc, Dissolved	mg/L	.08	0.081	101	85-115	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1057650 1057651

Parameter	Units	10169546001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	mg/L	0.00012 J	.08	.08	0.079	0.081	98	100	70-130	3	20	
Arsenic, Dissolved	mg/L	0.13	.08	.08	0.21	0.21	96	102	70-130	2	20	
Barium, Dissolved	mg/L	0.022	.08	.08	0.099	0.10	97	100	70-130	2	20	
Beryllium, Dissolved	mg/L	0.00034	.08	.08	0.074	0.072	92	90	70-130	2	20	
Cadmium, Dissolved	mg/L	0.014	.08	.08	0.093	0.098	99	105	70-130	5	20	
Chromium, Dissolved	mg/L	0.00015 J	.08	.08	0.079	0.081	98	101	70-130	2	20	
Cobalt, Dissolved	mg/L	0.046	.08	.08	0.12	0.13	97	102	70-130	3	20	
Copper, Dissolved	mg/L	0.00086	.08	.08	0.083	0.083	102	103	70-130	.4	20	
Iron, Dissolved	mg/L	14.7	1	1	17.3	17.8	260	303	70-130	2	20	M6
Lead, Dissolved	mg/L	ND	.08	.08	0.079	0.081	99	101	70-130	3	20	
Nickel, Dissolved	mg/L	0.037	.08	.08	0.12	0.12	101	107	70-130	4	20	
Selenium, Dissolved	mg/L	ND	.08	.08	0.079	0.081	99	101	70-130	2	20	
Silver, Dissolved	mg/L	ND	.08	.08	0.052	0.052	65	65	70-130	.4	20	M6
Thallium, Dissolved	mg/L	ND	.08	.08	0.081	0.082	101	102	70-130	1	20	
Vanadium, Dissolved	mg/L	0.00039	.08	.08	0.080	0.084	100	104	70-130	4	20	
Zinc, Dissolved	mg/L	52.2	.08	.08	56.7	58.2	5620	7440	70-130	3	20	M6

MATRIX SPIKE SAMPLE: 1057652

Parameter	Units	10169740002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	<0.50 ug/L	.08	0.079	99	70-130	
Arsenic, Dissolved	mg/L	<0.50 ug/L	.08	0.081	101	70-130	
Barium, Dissolved	mg/L	<0.30 ug/L	.08	0.17	217	70-130	M1
Beryllium, Dissolved	mg/L	<0.20 ug/L	.08	0.076	96	70-130	
Cadmium, Dissolved	mg/L	<0.080 ug/L	.08	0.080	100	70-130	
Chromium, Dissolved	mg/L	<0.50 ug/L	.08	0.078	98	70-130	
Cobalt, Dissolved	mg/L	<0.50 ug/L	.08	0.078	97	70-130	
Copper, Dissolved	mg/L	<0.50 ug/L	.08	0.080	100	70-130	
Iron, Dissolved	mg/L	<50.0 ug/L	1	1.1	106	70-130	
Lead, Dissolved	mg/L	<0.10 ug/L	.08	0.078	98	70-130	
Nickel, Dissolved	mg/L	<0.50 ug/L	.08	0.082	102	70-130	
Selenium, Dissolved	mg/L	<0.50 ug/L	.08	0.081	101	70-130	
Silver, Dissolved	mg/L	<0.50 ug/L	.08	0.067	84	70-130	
Thallium, Dissolved	mg/L	<0.10 ug/L	.08	0.080	99	70-130	
Vanadium, Dissolved	mg/L	<0.10 ug/L	.08	0.080	99	70-130	
Zinc, Dissolved	mg/L	<5.0 ug/L	.08	0.086	108	70-130	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: MERP/6017
QC Batch Method: EPA 245.1
Associated Lab Samples: 10169563001

Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved

METHOD BLANK: 1059178
Matrix: Water
Associated Lab Samples: 10169563001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	mg/L	ND	0.00020	09/28/11 14:27	

LABORATORY CONTROL SAMPLE: 1059179

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	mg/L	.005	0.0051	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1061598 1061599

Parameter	Units	10169546002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	mg/L	ND	.005	.005	0.0060	0.0071	119	142	85-115	18	20	M1

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: MSV/18016 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004, 10169563005

METHOD BLANK: 1059703 Matrix: Water
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004, 10169563005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	09/22/11 10:44	
1,1,1-Trichloroethane	ug/L	ND	1.0	09/22/11 10:44	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/22/11 10:44	
1,1,2-Trichloroethane	ug/L	ND	1.0	09/22/11 10:44	
1,1-Dichloroethane	ug/L	ND	1.0	09/22/11 10:44	
1,1-Dichloroethene	ug/L	ND	1.0	09/22/11 10:44	
1,2,3-Trichloropropane	ug/L	ND	4.0	09/22/11 10:44	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	09/22/11 10:44	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	09/22/11 10:44	
1,2-Dichlorobenzene	ug/L	ND	1.0	09/22/11 10:44	
1,2-Dichloroethane	ug/L	ND	1.0	09/22/11 10:44	
1,2-Dichloropropane	ug/L	ND	4.0	09/22/11 10:44	
1,3-Dichlorobenzene	ug/L	ND	1.0	09/22/11 10:44	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/22/11 10:44	
2-Butanone (MEK)	ug/L	ND	4.0	09/22/11 10:44	
2-Hexanone	ug/L	ND	4.0	09/22/11 10:44	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	4.0	09/22/11 10:44	
Acetone	ug/L	ND	25.0	09/22/11 10:44	
Acetonitrile	ug/L	ND	40.0	09/22/11 10:44	
Benzene	ug/L	ND	1.0	09/22/11 10:44	
Bromochloromethane	ug/L	ND	1.0	09/22/11 10:44	
Bromodichloromethane	ug/L	ND	1.0	09/22/11 10:44	
Bromoform	ug/L	ND	4.0	09/22/11 10:44	
Bromomethane	ug/L	ND	4.0	09/22/11 10:44	
Carbon disulfide	ug/L	ND	1.0	09/22/11 10:44	
Carbon tetrachloride	ug/L	ND	1.0	09/22/11 10:44	
Chlorobenzene	ug/L	ND	1.0	09/22/11 10:44	
Chloroethane	ug/L	ND	1.0	09/22/11 10:44	
Chloroform	ug/L	ND	1.0	09/22/11 10:44	
Chloromethane	ug/L	ND	4.0	09/22/11 10:44	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/22/11 10:44	
cis-1,3-Dichloropropene	ug/L	ND	4.0	09/22/11 10:44	
Dibromochloromethane	ug/L	ND	1.0	09/22/11 10:44	
Dibromomethane	ug/L	ND	4.0	09/22/11 10:44	
Dichlorodifluoromethane	ug/L	ND	1.0	09/22/11 10:44	
Ethylbenzene	ug/L	ND	1.0	09/22/11 10:44	
Iodomethane	ug/L	ND	4.0	09/22/11 10:44	
m&p-Xylene	ug/L	ND	2.0	09/22/11 10:44	
Methylene Chloride	ug/L	ND	4.0	09/22/11 10:44	
o-Xylene	ug/L	ND	1.0	09/22/11 10:44	
Styrene	ug/L	ND	1.0	09/22/11 10:44	
Tetrachloroethene	ug/L	ND	1.0	09/22/11 10:44	
Toluene	ug/L	ND	1.0	09/22/11 10:44	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

METHOD BLANK: 1059703 Matrix: Water

Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004, 10169563005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	4.0	09/22/11 10:44	
trans-1,3-Dichloropropene	ug/L	ND	4.0	09/22/11 10:44	
trans-1,4-Dichloro-2-butene	ug/L	ND	10.0	09/22/11 10:44	
Trichloroethene	ug/L	ND	1.0	09/22/11 10:44	
Trichlorofluoromethane	ug/L	ND	1.0	09/22/11 10:44	
Vinyl acetate	ug/L	ND	10.0	09/22/11 10:44	
Vinyl chloride	ug/L	ND	0.40	09/22/11 10:44	
Xylene (Total)	ug/L	ND	3.0	09/22/11 10:44	
1,2-Dichloroethane-d4 (S)	%	106	75-125	09/22/11 10:44	
4-Bromofluorobenzene (S)	%	101	75-125	09/22/11 10:44	
Dibromofluoromethane (S)	%	104	75-125	09/22/11 10:44	
Toluene-d8 (S)	%	101	75-125	09/22/11 10:44	

LABORATORY CONTROL SAMPLE: 1059704

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.0	98	75-125	
1,1,1-Trichloroethane	ug/L	50	50.4	101	75-125	
1,1,2,2-Tetrachloroethane	ug/L	50	50.0	100	75-125	
1,1,2-Trichloroethane	ug/L	50	48.9	98	75-125	
1,1-Dichloroethane	ug/L	50	50.4	101	75-125	
1,1-Dichloroethene	ug/L	50	49.5	99	75-125	
1,2,3-Trichloropropane	ug/L	50	50.3	101	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	49.7	99	68-125	
1,2-Dibromoethane (EDB)	ug/L	50	50.0	100	75-125	
1,2-Dichlorobenzene	ug/L	50	48.5	97	75-125	
1,2-Dichloroethane	ug/L	50	50.4	101	71-125	
1,2-Dichloropropane	ug/L	50	49.2	98	75-125	
1,3-Dichlorobenzene	ug/L	50	49.5	99	75-125	
1,4-Dichlorobenzene	ug/L	50	48.3	97	75-125	
2-Butanone (MEK)	ug/L	50	51.5	103	56-137	
2-Hexanone	ug/L	50	51.8	104	65-125	
4-Methyl-2-pentanone (MIBK)	ug/L	50	51.7	103	67-125	
Acetone	ug/L	125	121	97	41-130	
Acetonitrile	ug/L	500	524	105	51-140	
Benzene	ug/L	50	49.2	98	75-125	
Bromochloromethane	ug/L	50	52.4	105	75-125	
Bromodichloromethane	ug/L	50	48.8	98	75-125	
Bromoform	ug/L	50	47.7	95	75-125	
Bromomethane	ug/L	50	49.6	99	45-138	
Carbon disulfide	ug/L	50	47.0	94	67-126	
Carbon tetrachloride	ug/L	50	49.1	98	75-125	
Chlorobenzene	ug/L	50	48.5	97	75-125	
Chloroethane	ug/L	50	43.0	86	72-125	
Chloroform	ug/L	50	49.7	99	75-125	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

LABORATORY CONTROL SAMPLE: 1059704

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloromethane	ug/L	50	49.3	99	65-125	
cis-1,2-Dichloroethene	ug/L	50	50.8	102	75-125	
cis-1,3-Dichloropropene	ug/L	50	48.5	97	75-125	
Dibromochloromethane	ug/L	50	48.6	97	75-125	
Dibromomethane	ug/L	50	47.6	95	75-125	
Dichlorodifluoromethane	ug/L	50	41.3	83	55-143	
Ethylbenzene	ug/L	50	49.7	99	75-125	
Iodomethane	ug/L	50	69.7	139	31-150	
m&p-Xylene	ug/L	100	97.0	97	75-125	
Methylene Chloride	ug/L	50	48.3	97	75-125	
o-Xylene	ug/L	50	48.8	98	75-125	
Styrene	ug/L	50	50.7	101	75-125	
Tetrachloroethene	ug/L	50	47.8	96	75-125	
Toluene	ug/L	50	48.3	97	75-125	
trans-1,2-Dichloroethene	ug/L	50	50.3	101	75-125	
trans-1,3-Dichloropropene	ug/L	50	49.9	100	75-125	
trans-1,4-Dichloro-2-butene	ug/L	125	128	103	68-129	
Trichloroethene	ug/L	50	47.8	96	75-125	
Trichlorofluoromethane	ug/L	50	43.6	87	75-125	
Vinyl acetate	ug/L	50	52.0	104	62-140	
Vinyl chloride	ug/L	50	47.4	95	74-125	
Xylene (Total)	ug/L	150	146	97	75-125	
1,2-Dichloroethane-d4 (S)	%			102	75-125	
4-Bromofluorobenzene (S)	%			102	75-125	
Dibromofluoromethane (S)	%			100	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE SAMPLE: 1061136

Parameter	Units	10169789001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	50	54.8	110	75-125	
1,1,1-Trichloroethane	ug/L	2.0	50	62.8	121	75-128	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	57.0	114	75-125	
1,1,2-Trichloroethane	ug/L	ND	50	54.6	109	75-125	
1,1-Dichloroethane	ug/L	ND	50	58.4	117	75-125	
1,1-Dichloroethene	ug/L	ND	50	62.0	124	75-134	
1,2,3-Trichloropropane	ug/L	ND	50	56.7	113	75-125	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	56.6	113	68-129	
1,2-Dibromoethane (EDB)	ug/L	ND	50	55.8	112	75-125	
1,2-Dichlorobenzene	ug/L	ND	50	54.3	109	75-125	
1,2-Dichloroethane	ug/L	ND	50	56.6	113	69-129	
1,2-Dichloropropane	ug/L	ND	50	56.8	114	75-125	
1,3-Dichlorobenzene	ug/L	ND	50	55.2	110	75-125	
1,4-Dichlorobenzene	ug/L	ND	50	54.4	109	75-125	
2-Butanone (MEK)	ug/L	ND	50	49.3	99	42-137	
2-Hexanone	ug/L	ND	50	54.9	110	59-125	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	57.9	116	57-126	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

MATRIX SPIKE SAMPLE: 1061136

Parameter	Units	10169789001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	ND	125	96.7	75	34-130	
Acetonitrile	ug/L	ND	500	602	120	48-150	
Benzene	ug/L	ND	50	57.3	115	73-136	
Bromochloromethane	ug/L	ND	50	55.5	111	75-125	
Bromodichloromethane	ug/L	ND	50	55.6	111	75-125	
Bromoform	ug/L	ND	50	53.3	107	75-125	
Bromomethane	ug/L	ND	50	50.8	102	41-150	
Carbon disulfide	ug/L	ND	50	56.7	113	44-150	
Carbon tetrachloride	ug/L	ND	50	60.7	121	75-135	
Chlorobenzene	ug/L	ND	50	55.8	112	75-125	
Chloroethane	ug/L	ND	50	48.3	97	71-139	
Chloroform	ug/L	ND	50	56.6	113	75-125	
Chloromethane	ug/L	ND	50	55.5	111	65-144	
cis-1,2-Dichloroethene	ug/L	ND	50	57.8	116	75-125	
cis-1,3-Dichloropropene	ug/L	ND	50	55.0	110	75-125	
Dibromochloromethane	ug/L	ND	50	54.3	109	75-125	
Dibromomethane	ug/L	ND	50	53.3	107	75-125	
Dichlorodifluoromethane	ug/L	ND	50	58.0	116	55-150	
Ethylbenzene	ug/L	ND	50	57.1	114	75-137	
Iodomethane	ug/L	ND	50	73.5	147	30-150	
m&p-Xylene	ug/L	ND	100	114	114	71-133	
Methylene Chloride	ug/L	ND	50	53.6	107	75-125	
o-Xylene	ug/L	ND	50	55.3	111	75-128	
Styrene	ug/L	ND	50	57.6	115	72-125	
Tetrachloroethene	ug/L	ND	50	56.9	114	75-126	
Toluene	ug/L	ND	50	56.7	113	75-125	
trans-1,2-Dichloroethene	ug/L	ND	50	58.0	116	75-127	
trans-1,3-Dichloropropene	ug/L	ND	50	56.0	112	75-125	
trans-1,4-Dichloro-2-butene	ug/L	ND	125	144	115	57-129	
Trichloroethene	ug/L	7.8	50	65.4	115	75-125	
Trichlorofluoromethane	ug/L	ND	50	56.6	113	75-150	
Vinyl acetate	ug/L	ND	50	58.0	116	62-140	
Vinyl chloride	ug/L	ND	50	55.0	110	74-142	
Xylene (Total)	ug/L	ND	150	169	113	73-132	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				101	75-125	
Dibromofluoromethane (S)	%				101	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 1061137

Parameter	Units	10169789002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	1.9	2.0	6	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

SAMPLE DUPLICATE: 1061137

Parameter	Units	10169789002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Acetonitrile	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon disulfide	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Iodomethane	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	ND		30	
Trichloroethene	ug/L	31.3	31.3	.2	30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	106	109	3		
4-Bromofluorobenzene (S)	%	101	101	.9		

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

SAMPLE DUPLICATE: 1061137

Parameter	Units	10169789002 Result	Dup Result	RPD	Max RPD	Qualifiers
Dibromofluoromethane (S)	%	104	105	1		
Toluene-d8 (S)	%	100	102	2		

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: WET/23579
Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

METHOD BLANK: 1059578
Matrix: Water
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	0.89J	1.0	09/22/11 09:56	

LABORATORY CONTROL SAMPLE: 1059579

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	988	99	90-110	

SAMPLE DUPLICATE: 1059580

Parameter	Units	10169546001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1710	1700	.7	20	

SAMPLE DUPLICATE: 1059581

Parameter	Units	10169907003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	379	390	3	20	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: WET/23629
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

LABORATORY CONTROL SAMPLE: 1062052

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 1062050

Parameter	Units	10169563001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	.3	3	H6

SAMPLE DUPLICATE: 1062051

Parameter	Units	10169653001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.0	.1	3	H6

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: WETA/11081
Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

METHOD BLANK: 1057630
Matrix: Water
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	09/20/11 15:04	

LABORATORY CONTROL SAMPLE & LCSD: 1057631 1057632

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	5	4.8	4.8	95	95	90-110	.2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1057633 1057634

Parameter	Units	10169563002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.32	5	5	5.1	5.0	96	94	80-120	2	20	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: WETA/11080
Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

METHOD BLANK: 1057626
Matrix: Water
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50.0	09/20/11 08:16	

LABORATORY CONTROL SAMPLE: 1057627

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	304	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1057628 1057629

Parameter	Units	10169447004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	mg/L	1100	250	250	1320	1330	89	91	90-110	.2	20	M1

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: WETA/11075
Analysis Method: ASTM D516-02
QC Batch Method: ASTM D516-02
Analysis Description: ASTM D516-9002 Sulfate Water
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

METHOD BLANK: 1056787 Matrix: Water
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	0.67J	2.5	09/19/11 11:50	

LABORATORY CONTROL SAMPLE: 1056788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	7.5	6.5	87	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1056789 1056790

Parameter	Units	10168523009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	1470	2000	2000	3090	3030	81	78	80-120	2	30	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1056791 1056792

Parameter	Units	10169563001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	141	200	200	296	291	78	75	80-120	2	30	M6

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: WETA/11083
Analysis Method: SM 4500-Cl E
QC Batch Method: SM 4500-Cl E
Analysis Description: SM4500Cl-E Chloride
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

METHOD BLANK: 1057798
Matrix: Water

Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	2.0	09/20/11 12:15	

LABORATORY CONTROL SAMPLE: 1057799

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	30	31.1	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1057800 1057801

Parameter	Units	10169534001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	33.5	30	30	59.4	59.6	86	87	80-120	.4	30	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10169563

QC Batch: WETA/11094
Analysis Method: SM 4500-CN-E
QC Batch Method: SM 4500-CN-E
Analysis Description: SM4500CN-E Cyanide
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

METHOD BLANK: 1059391
Matrix: Water
Associated Lab Samples: 10169563001, 10169563002, 10169563003, 10169563004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	ug/L	7.0J	10.0	09/23/11 16:02	

LABORATORY CONTROL SAMPLE: 1059392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	250	248	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1059393 1059394

Parameter	Units	10169349001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	29.5	250	250	271	281	96	100	80-120	4	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1059395 1059396

Parameter	Units	10169740003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	<10.0	250	250	275	273	109	108	80-120	.8	30	

QUALIFIERS

Project: OLD LANDFILL
Pace Project No.: 10169563

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis
PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated more than 15 minutes after sample collection.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: OLD LANDFILL
Pace Project No.: 10169563

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10169563001	**BSB-GW-01**	EPA 8151	GCSV/5741	EPA 8151	GCSV/4299
10169563002	**BSB-GW-02**	EPA 8151	GCSV/5741	EPA 8151	GCSV/4299
10169563003	**BSB-GW-03**	EPA 8151	GCSV/5741	EPA 8151	GCSV/4299
10169563004	**BSB-GW-04**	EPA 8151	GCSV/5741	EPA 8151	GCSV/4299
10169563001	**BSB-GW-01**	EPA 200.8	MPRP/28519	EPA 200.8	ICPM/11509
10169563001	**BSB-GW-01**	EPA 245.1	MERP/6017	EPA 245.1	MERC/6829
10169563001	**BSB-GW-01**	EPA 8260	MSV/18016		
10169563002	**BSB-GW-02**	EPA 8260	MSV/18016		
10169563003	**BSB-GW-03**	EPA 8260	MSV/18016		
10169563004	**BSB-GW-04**	EPA 8260	MSV/18016		
10169563005	**Trip Blank**	EPA 8260	MSV/18016		
10169563001	**BSB-GW-01**	EPA 120.1	WET/23579		
10169563002	**BSB-GW-02**	EPA 120.1	WET/23579		
10169563003	**BSB-GW-03**	EPA 120.1	WET/23579		
10169563004	**BSB-GW-04**	EPA 120.1	WET/23579		
10169563001	**BSB-GW-01**	SM 4500-H+B	WET/23629		
10169563002	**BSB-GW-02**	SM 4500-H+B	WET/23629		
10169563003	**BSB-GW-03**	SM 4500-H+B	WET/23629		
10169563004	**BSB-GW-04**	SM 4500-H+B	WET/23629		
10169563001	**BSB-GW-01**	EPA 353.2	WETA/11081		
10169563002	**BSB-GW-02**	EPA 353.2	WETA/11081		
10169563003	**BSB-GW-03**	EPA 353.2	WETA/11081		
10169563004	**BSB-GW-04**	EPA 353.2	WETA/11081		
10169563001	**BSB-GW-01**	EPA 410.4	WETA/11080		
10169563002	**BSB-GW-02**	EPA 410.4	WETA/11080		
10169563003	**BSB-GW-03**	EPA 410.4	WETA/11080		
10169563004	**BSB-GW-04**	EPA 410.4	WETA/11080		
10169563001	**BSB-GW-01**	ASTM D516-02	WETA/11075		
10169563002	**BSB-GW-02**	ASTM D516-02	WETA/11075		
10169563003	**BSB-GW-03**	ASTM D516-02	WETA/11075		
10169563004	**BSB-GW-04**	ASTM D516-02	WETA/11075		
10169563001	**BSB-GW-01**	SM 4500-Cl E	WETA/11083		
10169563002	**BSB-GW-02**	SM 4500-Cl E	WETA/11083		
10169563003	**BSB-GW-03**	SM 4500-Cl E	WETA/11083		
10169563004	**BSB-GW-04**	SM 4500-Cl E	WETA/11083		
10169563001	**BSB-GW-01**	SM 4500-CN-E	WETA/11094		
10169563002	**BSB-GW-02**	SM 4500-CN-E	WETA/11094		
10169563003	**BSB-GW-03**	SM 4500-CN-E	WETA/11094		
10169563004	**BSB-GW-04**	SM 4500-CN-E	WETA/11094		

Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

September 26, 2011

Kari Poehls
PASI Minnesota
1700 Elm Street
Suite 200
Minneapolis, MN 55414

RE: Project 20128374
Project ID: 10169563 / BPAR-Pioneer-MT

Dear Kari Poehls:

Enclosed are the analytical results for sample(s) received by the laboratory on September 17, 2011. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen H Brown

Karen Brown
karen.brown@pacelabs.com

NELAP ACCREDITED
TNI
LABORATORY

Project: 20128374

Client: PASI Minnesota

Project ID: 10169563 / BPAR-Pioneer-MT

Washington Department of Ecology C2078
Oregon Environmental Laboratory Accreditation - LA200001
U.S. Dept. of Agriculture Foreign Soil Import P330-10-00119
Pennsylviania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-09-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Oklahoma Department of Environmental Quality - 2010-139
Illinois Environmental Protection Agency - 0025721
California Env. Lab Accreditation Program Branch - 11277CA
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Cross Reference

Project: 20128374

Client: PASI Minnesota

Project ID: 10169563 / BPAR-Pioneer-MT

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
BSB-GW-01	20919253	Water	12-Sep-11 12:25	17-Sep-11 09:00
BSB-GW-02	20919254	Water	12-Sep-11 15:15	17-Sep-11 09:00
BSB-GW-03	20919255	Water	12-Sep-11 16:00	17-Sep-11 09:00
BSB-GW-04	20919256	Water	13-Sep-11 00:00	17-Sep-11 09:00

Project Narrative

Project: 20128374

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Surrogates:

Surrogate recoveries outside of QC limits are qualified in the surrogate results section.

QC Cross Reference

Project: 20128374

Analytical Method	Batch	Sample used for QC
EPA 8270	168747	Batch sample from another client

Narrative1 9/26/2011 14:10:23

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from a different client was used.

Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: PASI Minnesota

Client ID: BSB-GW-01 MBM6-2

Project: 20128374

Project ID: 10169563 / BPAR-Pioneer-MT

Site: None

Lab ID: 20919253

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 168747

Method: EPA 8270
GCMS SVOAs Dual pH

Collected: 12-Sep-11

Received: 17-Sep-11

Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
83-32-9	Acenaphthene	1	ND		10.0		23-Sep-11 15:32 JAM
208-96-8	Acenaphthylene	1	ND		10.0		23-Sep-11 15:32 JAM
120-12-7	Anthracene	1	ND		10.0		23-Sep-11 15:32 JAM
92-87-5	Benzidine	1	ND		30.0		23-Sep-11 15:32 JAM
56-55-3	Benzo(a)anthracene	1	ND		10.0		23-Sep-11 15:32 JAM
205-99-2	Benzo(b)fluoranthene	1	ND		10.0		23-Sep-11 15:32 JAM
207-08-9	Benzo(k)fluoranthene	1	ND		10.0		23-Sep-11 15:32 JAM
191-24-2	Benzo(g,h,i)perylene	1	ND		10.0		23-Sep-11 15:32 JAM
50-32-8	Benzo(a)pyrene	1	ND		10.0		23-Sep-11 15:32 JAM
101-55-3	4-Bromophenylphenyl ether	1	ND		10.0		23-Sep-11 15:32 JAM
85-68-7	Butylbenzylphthalate	1	ND		10.0		23-Sep-11 15:32 JAM
59-50-7	4-Chloro-3-methylphenol	1	ND		10.0		23-Sep-11 15:32 JAM
111-91-1	bis(2-Chloroethoxy)methane	1	ND		10.0		23-Sep-11 15:32 JAM
111-44-4	bis(2-Chloroethyl) ether	1	ND		10.0		23-Sep-11 15:32 JAM
91-58-7	2-Chloronaphthalene	1	ND		10.0		23-Sep-11 15:32 JAM
95-57-8	2-Chlorophenol	1	ND		10.0		23-Sep-11 15:32 JAM
106-48-9	4-Chlorophenol	1	ND		10.0		23-Sep-11 15:32 JAM
7005-72-3	4-Chlorophenylphenyl ether	1	ND		10.0		23-Sep-11 15:32 JAM
218-01-9	Chrysene	1	ND		10.0		23-Sep-11 15:32 JAM
53-70-3	Dibenz(a,h)anthracene	1	ND		10.0		23-Sep-11 15:32 JAM
95-50-1	1,2-Dichlorobenzene	1	ND		10.0		23-Sep-11 15:32 JAM
541-73-1	1,3-Dichlorobenzene	1	ND		10.0		23-Sep-11 15:32 JAM
91-94-1	3,3'-Dichlorobenzidine	1	ND		20.0		23-Sep-11 15:32 JAM
120-83-2	2,4-Dichlorophenol	1	ND		10.0		23-Sep-11 15:32 JAM
84-66-2	Diethylphthalate	1	ND		10.0		23-Sep-11 15:32 JAM
105-67-9	2,4-Dimethylphenol	1	ND		10.0		23-Sep-11 15:32 JAM
131-11-3	Dimethylphthalate	1	ND		10.0		23-Sep-11 15:32 JAM
534-52-1	4,6-Dinitro-2-methylphenol	1	ND		10.0		23-Sep-11 15:32 JAM
51-28-5	2,4-Dinitrophenol	1	ND		10.0		23-Sep-11 15:32 JAM
121-14-2	2,4-Dinitrotoluene	1	ND		10.0		23-Sep-11 15:32 JAM
606-20-2	2,6-Dinitrotoluene	1	ND		10.0		23-Sep-11 15:32 JAM
117-84-0	Di-n-octylphthalate	1	ND		10.0		23-Sep-11 15:32 JAM
122-66-7	1,2-Diphenylhydrazine	1	ND		10.0		23-Sep-11 15:32 JAM
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		10.0		23-Sep-11 15:32 JAM

Protocol 9/26/2011 14:10:24

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Client: PASI Minnesota

Client ID: BSB-GW-01
Project: 20128374
Project ID: 10169563 / BPAR-Pioneer-MT
Site: None
Lab ID: 20919253
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 168747
Method: EPA 8270
GCMS SVOAs Dual pH
Collected: 12-Sep-11
Received: 17-Sep-11
Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
206-44-0	Fluoranthene	1	ND		10.0		23-Sep-11 15:32 JAM
86-73-7	Fluorene	1	ND		10.0		23-Sep-11 15:32 JAM
87-68-3	Hexachloro-1,3-butadiene	1	ND		10.0		23-Sep-11 15:32 JAM
118-74-1	Hexachlorobenzene	1	ND		10.0		23-Sep-11 15:32 JAM
77-47-4	Hexachlorocyclopentadiene	1	ND		10.0		23-Sep-11 15:32 JAM
67-72-1	Hexachloroethane	1	ND		10.0		23-Sep-11 15:32 JAM
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		10.0		23-Sep-11 15:32 JAM
78-59-1	Isophorone	1	ND		10.0		23-Sep-11 15:32 JAM
90-12-0	1-Methylnaphthalene	1	ND		10.0		23-Sep-11 15:32 JAM
91-57-6	2-Methylnaphthalene	1	ND		10.0		23-Sep-11 15:32 JAM
95-48-7	2-Methylphenol (o-Cresol)	1	ND		10.0		23-Sep-11 15:32 JAM
	3&4-Methylphenol	1	ND		10.0		23-Sep-11 15:32 JAM
91-20-3	Naphthalene	1	ND		10.0		23-Sep-11 15:32 JAM
98-95-3	Nitrobenzene	1	ND		10.0		23-Sep-11 15:32 JAM
88-75-5	2-Nitrophenol	1	ND		10.0		23-Sep-11 15:32 JAM
100-02-7	4-Nitrophenol	1	ND		10.0		23-Sep-11 15:32 JAM
62-75-9	N-Nitrosodimethylamine	1	ND		10.0		23-Sep-11 15:32 JAM
621-64-7	N-Nitroso-di-n-propylamine	1	ND		10.0		23-Sep-11 15:32 JAM
86-30-6	N-Nitrosodiphenylamine	1	ND		10.0		23-Sep-11 15:32 JAM
108-60-1	2,2'-Oxybis(1-chloropropane)	1	ND		10.0		23-Sep-11 15:32 JAM
87-86-5	Pentachlorophenol	1	ND		10.0		23-Sep-11 15:32 JAM
85-01-8	Phenanthrene	1	ND		10.0		23-Sep-11 15:32 JAM
108-95-2	Phenol	1	ND		10.0		23-Sep-11 15:32 JAM
129-00-0	Pyrene	1	ND		10.0		23-Sep-11 15:32 JAM
110-86-1	Pyridine	1	ND		10.0		23-Sep-11 15:32 JAM
120-82-1	1,2,4-Trichlorobenzene	1	ND		10.0		23-Sep-11 15:32 JAM
95-95-4	2,4,5-Trichlorophenol	1	ND		10.0		23-Sep-11 15:32 JAM
88-06-2	2,4,6-Trichlorophenol	1	ND		10.0		23-Sep-11 15:32 JAM

62 compound(s) reported

Protocol 9/26/2011 14:10:24

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Client: PASI Minnesota

Client ID: BSB-GW-01
Project: 20128374
Project ID: 10169563 / BPAR-Pioneer-MT
Site: None
Lab ID: 20919253
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 168775
Method: EPA 8151
8151 Herbs Water
Collected: 12-Sep-11
Received: 17-Sep-11
Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
94-74-6	MCPA	1	ND		250.		21-Sep-11 14:42 SPP1
7085-19-0	MCPP	1	ND		250.		21-Sep-11 14:42 SPP1

2 compound(s) reported

Protocol 9/26/2011 14:10:24

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

		Client:	PASI Minnesota		
Client ID:	BSB-GW-02 BSB-A1	**Project:**	20128374		
Project ID:	10169563 / BPAR-Pioneer-MT	**Site:**	None		
Lab ID:	20919254	**Matrix:**	Water	**% Moisture:**	n/a
Description:	None	**Prep Level:**	Water	**Batch:**	168747
Method:	EPA 8270 GCMS SVOAs Dual pH	**Collected:**	12-Sep-11	**Received:**	17-Sep-11
		Prepared:	19-Sep-11		

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
83-32-9	Acenaphthene	1	ND		10.0		23-Sep-11 16:23 JAM
208-96-8	Acenaphthylene	1	ND		10.0		23-Sep-11 16:23 JAM
120-12-7	Anthracene	1	ND		10.0		23-Sep-11 16:23 JAM
92-87-5	Benzidine	1	ND		30.0		23-Sep-11 16:23 JAM
56-55-3	Benzo(a)anthracene	1	ND		10.0		23-Sep-11 16:23 JAM
205-99-2	Benzo(b)fluoranthene	1	ND		10.0		23-Sep-11 16:23 JAM
207-08-9	Benzo(k)fluoranthene	1	ND		10.0		23-Sep-11 16:23 JAM
191-24-2	Benzo(g,h,i)perylene	1	ND		10.0		23-Sep-11 16:23 JAM
50-32-8	Benzo(a)pyrene	1	ND		10.0		23-Sep-11 16:23 JAM
101-55-3	4-Bromophenylphenyl ether	1	ND		10.0		23-Sep-11 16:23 JAM
85-68-7	Butylbenzylphthalate	1	ND		10.0		23-Sep-11 16:23 JAM
59-50-7	4-Chloro-3-methylphenol	1	ND		10.0		23-Sep-11 16:23 JAM
111-91-1	bis(2-Chloroethoxy)methane	1	ND		10.0		23-Sep-11 16:23 JAM
111-44-4	bis(2-Chloroethyl) ether	1	ND		10.0		23-Sep-11 16:23 JAM
91-58-7	2-Chloronaphthalene	1	ND		10.0		23-Sep-11 16:23 JAM
95-57-8	2-Chlorophenol	1	ND		10.0		23-Sep-11 16:23 JAM
106-48-9	4-Chlorophenol	1	ND		10.0		23-Sep-11 16:23 JAM
7005-72-3	4-Chlorophenylphenyl ether	1	ND		10.0		23-Sep-11 16:23 JAM
218-01-9	Chrysene	1	ND		10.0		23-Sep-11 16:23 JAM
53-70-3	Dibenz(a,h)anthracene	1	ND		10.0		23-Sep-11 16:23 JAM
95-50-1	1,2-Dichlorobenzene	1	ND		10.0		23-Sep-11 16:23 JAM
541-73-1	1,3-Dichlorobenzene	1	ND		10.0		23-Sep-11 16:23 JAM
91-94-1	3,3'-Dichlorobenzidine	1	ND		20.0		23-Sep-11 16:23 JAM
120-83-2	2,4-Dichlorophenol	1	ND		10.0		23-Sep-11 16:23 JAM
84-66-2	Diethylphthalate	1	ND		10.0		23-Sep-11 16:23 JAM
105-67-9	2,4-Dimethylphenol	1	ND		10.0		23-Sep-11 16:23 JAM
131-11-3	Dimethylphthalate	1	ND		10.0		23-Sep-11 16:23 JAM
534-52-1	4,6-Dinitro-2-methylphenol	1	ND		10.0		23-Sep-11 16:23 JAM
51-28-5	2,4-Dinitrophenol	1	ND		10.0		23-Sep-11 16:23 JAM
121-14-2	2,4-Dinitrotoluene	1	ND		10.0		23-Sep-11 16:23 JAM
606-20-2	2,6-Dinitrotoluene	1	ND		10.0		23-Sep-11 16:23 JAM
117-84-0	Di-n-octylphthalate	1	ND		10.0		23-Sep-11 16:23 JAM
122-66-7	1,2-Diphenylhydrazine	1	ND		10.0		23-Sep-11 16:23 JAM
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		10.0		23-Sep-11 16:23 JAM

Protocol 9/26/2011 14:10:24

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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: PASI Minnesota

Client ID: BSB-GW-02
Project: 20128374
Project ID: 10169563 / BPAR-Pioneer-MT
Site: None
Lab ID: 20919254
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 168747
Method: EPA 8270
GCMS SVOAs Dual pH
Collected: 12-Sep-11
Received: 17-Sep-11
Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
206-44-0	Fluoranthene	1	ND		10.0		23-Sep-11 16:23 JAM
86-73-7	Fluorene	1	ND		10.0		23-Sep-11 16:23 JAM
87-68-3	Hexachloro-1,3-butadiene	1	ND		10.0		23-Sep-11 16:23 JAM
118-74-1	Hexachlorobenzene	1	ND		10.0		23-Sep-11 16:23 JAM
77-47-4	Hexachlorocyclopentadiene	1	ND		10.0		23-Sep-11 16:23 JAM
67-72-1	Hexachloroethane	1	ND		10.0		23-Sep-11 16:23 JAM
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		10.0		23-Sep-11 16:23 JAM
78-59-1	Isophorone	1	ND		10.0		23-Sep-11 16:23 JAM
90-12-0	1-Methylnaphthalene	1	ND		10.0		23-Sep-11 16:23 JAM
91-57-6	2-Methylnaphthalene	1	ND		10.0		23-Sep-11 16:23 JAM
95-48-7	2-Methylphenol (o-Cresol)	1	ND		10.0		23-Sep-11 16:23 JAM
	3&4-Methylphenol	1	ND		10.0		23-Sep-11 16:23 JAM
91-20-3	Naphthalene	1	ND		10.0		23-Sep-11 16:23 JAM
98-95-3	Nitrobenzene	1	ND		10.0		23-Sep-11 16:23 JAM
88-75-5	2-Nitrophenol	1	ND		10.0		23-Sep-11 16:23 JAM
100-02-7	4-Nitrophenol	1	ND		10.0		23-Sep-11 16:23 JAM
62-75-9	N-Nitrosodimethylamine	1	ND		10.0		23-Sep-11 16:23 JAM
621-64-7	N-Nitroso-di-n-propylamine	1	ND		10.0		23-Sep-11 16:23 JAM
86-30-6	N-Nitrosodiphenylamine	1	ND		10.0		23-Sep-11 16:23 JAM
108-60-1	2,2'-Oxybis(1-chloropropane)	1	ND		10.0		23-Sep-11 16:23 JAM
87-86-5	Pentachlorophenol	1	ND		10.0		23-Sep-11 16:23 JAM
85-01-8	Phenanthrene	1	ND		10.0		23-Sep-11 16:23 JAM
108-95-2	Phenol	1	ND		10.0		23-Sep-11 16:23 JAM
129-00-0	Pyrene	1	ND		10.0		23-Sep-11 16:23 JAM
110-86-1	Pyridine	1	ND		10.0		23-Sep-11 16:23 JAM
120-82-1	1,2,4-Trichlorobenzene	1	ND		10.0		23-Sep-11 16:23 JAM
95-95-4	2,4,5-Trichlorophenol	1	ND		10.0		23-Sep-11 16:23 JAM
88-06-2	2,4,6-Trichlorophenol	1	ND		10.0		23-Sep-11 16:23 JAM

62 compound(s) reported

Protocol 9/26/2011 14:10:24

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: PASI Minnesota

Client ID: BSB-GW-02
Project: 20128374
Project ID: 10169563 / BPAR-Pioneer-MT
Site: None
Lab ID: 20919254
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 168775
Method: EPA 8151
8151 Herbs Water
Collected: 12-Sep-11
Received: 17-Sep-11
Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
94-74-6	MCPA	1	ND		250.		21-Sep-11 15:05 SPP1
7085-19-0	MCPP	1	ND		250.		21-Sep-11 15:05 SPP1

2 compound(s) reported

Protocol 9/26/2011 14:10:24

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Client: PASI Minnesota

Client ID: BSB-GW-03 BSB-A5

Project: 20128374

Project ID: 10169563 / BPAR-Pioneer-MT

Site: None

Lab ID: 20919255

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 168747

Method: EPA 8270
GCMS SVOAs Dual pH

Collected: 12-Sep-11

Received: 17-Sep-11

Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
83-32-9	Acenaphthene	1	ND		10.0		23-Sep-11 16:48 JAM
208-96-8	Acenaphthylene	1	ND		10.0		23-Sep-11 16:48 JAM
120-12-7	Anthracene	1	ND		10.0		23-Sep-11 16:48 JAM
92-87-5	Benzidine	1	ND		30.0		23-Sep-11 16:48 JAM
56-55-3	Benzo(a)anthracene	1	ND		10.0		23-Sep-11 16:48 JAM
205-99-2	Benzo(b)fluoranthene	1	ND		10.0		23-Sep-11 16:48 JAM
207-08-9	Benzo(k)fluoranthene	1	ND		10.0		23-Sep-11 16:48 JAM
191-24-2	Benzo(g,h,i)perylene	1	ND		10.0		23-Sep-11 16:48 JAM
50-32-8	Benzo(a)pyrene	1	ND		10.0		23-Sep-11 16:48 JAM
101-55-3	4-Bromophenylphenyl ether	1	ND		10.0		23-Sep-11 16:48 JAM
85-68-7	Butylbenzylphthalate	1	ND		10.0		23-Sep-11 16:48 JAM
59-50-7	4-Chloro-3-methylphenol	1	ND		10.0		23-Sep-11 16:48 JAM
111-91-1	bis(2-Chloroethoxy)methane	1	ND		10.0		23-Sep-11 16:48 JAM
111-44-4	bis(2-Chloroethyl) ether	1	ND		10.0		23-Sep-11 16:48 JAM
91-58-7	2-Chloronaphthalene	1	ND		10.0		23-Sep-11 16:48 JAM
95-57-8	2-Chlorophenol	1	ND		10.0		23-Sep-11 16:48 JAM
106-48-9	4-Chlorophenol	1	ND		10.0		23-Sep-11 16:48 JAM
7005-72-3	4-Chlorophenylphenyl ether	1	ND		10.0		23-Sep-11 16:48 JAM
218-01-9	Chrysene	1	ND		10.0		23-Sep-11 16:48 JAM
53-70-3	Dibenz(a,h)anthracene	1	ND		10.0		23-Sep-11 16:48 JAM
95-50-1	1,2-Dichlorobenzene	1	ND		10.0		23-Sep-11 16:48 JAM
541-73-1	1,3-Dichlorobenzene	1	ND		10.0		23-Sep-11 16:48 JAM
91-94-1	3,3'-Dichlorobenzidine	1	ND		20.0		23-Sep-11 16:48 JAM
120-83-2	2,4-Dichlorophenol	1	ND		10.0		23-Sep-11 16:48 JAM
84-66-2	Diethylphthalate	1	ND		10.0		23-Sep-11 16:48 JAM
105-67-9	2,4-Dimethylphenol	1	ND		10.0		23-Sep-11 16:48 JAM
131-11-3	Dimethylphthalate	1	ND		10.0		23-Sep-11 16:48 JAM
534-52-1	4,6-Dinitro-2-methylphenol	1	ND		10.0		23-Sep-11 16:48 JAM
51-28-5	2,4-Dinitrophenol	1	ND		10.0		23-Sep-11 16:48 JAM
121-14-2	2,4-Dinitrotoluene	1	ND		10.0		23-Sep-11 16:48 JAM
606-20-2	2,6-Dinitrotoluene	1	ND		10.0		23-Sep-11 16:48 JAM
117-84-0	Di-n-octylphthalate	1	ND		10.0		23-Sep-11 16:48 JAM
122-66-7	1,2-Diphenylhydrazine	1	ND		10.0		23-Sep-11 16:48 JAM
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		10.0		23-Sep-11 16:48 JAM

Protocol 9/26/2011 14:10:25

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Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Client: PASI Minnesota

Client ID: BSB-GW-03
Project: 20128374
Project ID: 10169563 / BPAR-Pioneer-MT
Site: None
Lab ID: 20919255
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 168747
Method: EPA 8270
GCMS SVOAs Dual pH
Collected: 12-Sep-11
Received: 17-Sep-11
Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
206-44-0	Fluoranthene	1	ND		10.0		23-Sep-11 16:48 JAM
86-73-7	Fluorene	1	ND		10.0		23-Sep-11 16:48 JAM
87-68-3	Hexachloro-1,3-butadiene	1	ND		10.0		23-Sep-11 16:48 JAM
118-74-1	Hexachlorobenzene	1	ND		10.0		23-Sep-11 16:48 JAM
77-47-4	Hexachlorocyclopentadiene	1	ND		10.0		23-Sep-11 16:48 JAM
67-72-1	Hexachloroethane	1	ND		10.0		23-Sep-11 16:48 JAM
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		10.0		23-Sep-11 16:48 JAM
78-59-1	Isophorone	1	ND		10.0		23-Sep-11 16:48 JAM
90-12-0	1-Methylnaphthalene	1	ND		10.0		23-Sep-11 16:48 JAM
91-57-6	2-Methylnaphthalene	1	ND		10.0		23-Sep-11 16:48 JAM
95-48-7	2-Methylphenol (o-Cresol)	1	ND		10.0		23-Sep-11 16:48 JAM
	3&4-Methylphenol	1	ND		10.0		23-Sep-11 16:48 JAM
91-20-3	Naphthalene	1	ND		10.0		23-Sep-11 16:48 JAM
98-95-3	Nitrobenzene	1	ND		10.0		23-Sep-11 16:48 JAM
88-75-5	2-Nitrophenol	1	ND		10.0		23-Sep-11 16:48 JAM
100-02-7	4-Nitrophenol	1	ND		10.0		23-Sep-11 16:48 JAM
62-75-9	N-Nitrosodimethylamine	1	ND		10.0		23-Sep-11 16:48 JAM
621-64-7	N-Nitroso-di-n-propylamine	1	ND		10.0		23-Sep-11 16:48 JAM
86-30-6	N-Nitrosodiphenylamine	1	ND		10.0		23-Sep-11 16:48 JAM
108-60-1	2,2'-Oxybis(1-chloropropane)	1	ND		10.0		23-Sep-11 16:48 JAM
87-86-5	Pentachlorophenol	1	ND		10.0		23-Sep-11 16:48 JAM
85-01-8	Phenanthrene	1	ND		10.0		23-Sep-11 16:48 JAM
108-95-2	Phenol	1	ND		10.0		23-Sep-11 16:48 JAM
129-00-0	Pyrene	1	ND		10.0		23-Sep-11 16:48 JAM
110-86-1	Pyridine	1	ND		10.0		23-Sep-11 16:48 JAM
120-82-1	1,2,4-Trichlorobenzene	1	ND		10.0		23-Sep-11 16:48 JAM
95-95-4	2,4,5-Trichlorophenol	1	ND		10.0		23-Sep-11 16:48 JAM
88-06-2	2,4,6-Trichlorophenol	1	ND		10.0		23-Sep-11 16:48 JAM

62 compound(s) reported

Protocol 9/26/2011 14:10:25

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: PASI Minnesota

Client ID: BSB-GW-03
Project: 20128374
Project ID: 10169563 / BPAR-Pioneer-MT
Site: None
Lab ID: 20919255
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 168775
Method: EPA 8151
8151 Herbs Water
Collected: 12-Sep-11
Received: 17-Sep-11
Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
94-74-6	MCPA	1	ND		250.		21-Sep-11 15:28 SPP1
7085-19-0	MCPP	1	ND		250.		21-Sep-11 15:28 SPP1

2 compound(s) reported

Protocol 9/26/2011 14:10:25

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Client: PASI Minnesota

Client ID: BSB-GW-04 BSB-AGR

Project ID: 10169563 / BPAR-Pioneer-MT

Lab ID: 20919256

Description: None

Method: EPA 8270
GCMS SVOAs Dual pH

Project: 20128374

Site: None

Matrix: Water **% Moisture:** n/a

Prep Level: Water **Batch:** 168747

Collected: 13-Sep-11 **Received:** 17-Sep-11

Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
83-32-9	Acenaphthene	1	ND		10.0		23-Sep-11 17:13 JAM
208-96-8	Acenaphthylene	1	ND		10.0		23-Sep-11 17:13 JAM
120-12-7	Anthracene	1	ND		10.0		23-Sep-11 17:13 JAM
92-87-5	Benzidine	1	ND		30.0		23-Sep-11 17:13 JAM
56-55-3	Benzo(a)anthracene	1	ND		10.0		23-Sep-11 17:13 JAM
205-99-2	Benzo(b)fluoranthene	1	ND		10.0		23-Sep-11 17:13 JAM
207-08-9	Benzo(k)fluoranthene	1	ND		10.0		23-Sep-11 17:13 JAM
191-24-2	Benzo(g,h,i)perylene	1	ND		10.0		23-Sep-11 17:13 JAM
50-32-8	Benzo(a)pyrene	1	ND		10.0		23-Sep-11 17:13 JAM
101-55-3	4-Bromophenylphenyl ether	1	ND		10.0		23-Sep-11 17:13 JAM
85-68-7	Butylbenzylphthalate	1	ND		10.0		23-Sep-11 17:13 JAM
59-50-7	4-Chloro-3-methylphenol	1	ND		10.0		23-Sep-11 17:13 JAM
111-91-1	bis(2-Chloroethoxy)methane	1	ND		10.0		23-Sep-11 17:13 JAM
111-44-4	bis(2-Chloroethyl) ether	1	ND		10.0		23-Sep-11 17:13 JAM
91-58-7	2-Chloronaphthalene	1	ND		10.0		23-Sep-11 17:13 JAM
95-57-8	2-Chlorophenol	1	ND		10.0		23-Sep-11 17:13 JAM
106-48-9	4-Chlorophenol	1	ND		10.0		23-Sep-11 17:13 JAM
7005-72-3	4-Chlorophenylphenyl ether	1	ND		10.0		23-Sep-11 17:13 JAM
218-01-9	Chrysene	1	ND		10.0		23-Sep-11 17:13 JAM
53-70-3	Dibenz(a,h)anthracene	1	ND		10.0		23-Sep-11 17:13 JAM
95-50-1	1,2-Dichlorobenzene	1	ND		10.0		23-Sep-11 17:13 JAM
541-73-1	1,3-Dichlorobenzene	1	ND		10.0		23-Sep-11 17:13 JAM
91-94-1	3,3'-Dichlorobenzidine	1	ND		20.0		23-Sep-11 17:13 JAM
120-83-2	2,4-Dichlorophenol	1	ND		10.0		23-Sep-11 17:13 JAM
84-66-2	Diethylphthalate	1	ND		10.0		23-Sep-11 17:13 JAM
105-67-9	2,4-Dimethylphenol	1	ND		10.0		23-Sep-11 17:13 JAM
131-11-3	Dimethylphthalate	1	ND		10.0		23-Sep-11 17:13 JAM
534-52-1	4,6-Dinitro-2-methylphenol	1	ND		10.0		23-Sep-11 17:13 JAM
51-28-5	2,4-Dinitrophenol	1	ND		10.0		23-Sep-11 17:13 JAM
121-14-2	2,4-Dinitrotoluene	1	ND		10.0		23-Sep-11 17:13 JAM
606-20-2	2,6-Dinitrotoluene	1	ND		10.0		23-Sep-11 17:13 JAM
117-84-0	Di-n-octylphthalate	1	ND		10.0		23-Sep-11 17:13 JAM
122-66-7	1,2-Diphenylhydrazine	1	ND		10.0		23-Sep-11 17:13 JAM
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		10.0		23-Sep-11 17:13 JAM

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Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

		Client:	PASI Minnesota		
Client ID:	BSB-GW-04	**Project:**	20128374		
Project ID:	10169563 / BPAR-Pioneer-MT	**Site:**	None		
Lab ID:	20919256	**Matrix:**	Water	**% Moisture:**	n/a
Description:	None	**Prep Level:**	Water	**Batch:**	168747
Method:	EPA 8270 GCMS SVOAs Dual pH	**Collected:**	13-Sep-11	**Received:**	17-Sep-11
		Prepared:	19-Sep-11		

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
206-44-0	Fluoranthene	1	ND		10.0		23-Sep-11 17:13 JAM
86-73-7	Fluorene	1	ND		10.0		23-Sep-11 17:13 JAM
87-68-3	Hexachloro-1,3-butadiene	1	ND		10.0		23-Sep-11 17:13 JAM
118-74-1	Hexachlorobenzene	1	ND		10.0		23-Sep-11 17:13 JAM
77-47-4	Hexachlorocyclopentadiene	1	ND		10.0		23-Sep-11 17:13 JAM
67-72-1	Hexachloroethane	1	ND		10.0		23-Sep-11 17:13 JAM
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		10.0		23-Sep-11 17:13 JAM
78-59-1	Isophorone	1	ND		10.0		23-Sep-11 17:13 JAM
90-12-0	1-Methylnaphthalene	1	ND		10.0		23-Sep-11 17:13 JAM
91-57-6	2-Methylnaphthalene	1	ND		10.0		23-Sep-11 17:13 JAM
95-48-7	2-Methylphenol (o-Cresol)	1	ND		10.0		23-Sep-11 17:13 JAM
	3&4-Methylphenol	1	ND		10.0		23-Sep-11 17:13 JAM
91-20-3	Naphthalene	1	ND		10.0		23-Sep-11 17:13 JAM
98-95-3	Nitrobenzene	1	ND		10.0		23-Sep-11 17:13 JAM
88-75-5	2-Nitrophenol	1	ND		10.0		23-Sep-11 17:13 JAM
100-02-7	4-Nitrophenol	1	ND		10.0		23-Sep-11 17:13 JAM
62-75-9	N-Nitrosodimethylamine	1	ND		10.0		23-Sep-11 17:13 JAM
621-64-7	N-Nitroso-di-n-propylamine	1	ND		10.0		23-Sep-11 17:13 JAM
86-30-6	N-Nitrosodiphenylamine	1	ND		10.0		23-Sep-11 17:13 JAM
108-60-1	2,2'-Oxybis(1-chloropropane)	1	ND		10.0		23-Sep-11 17:13 JAM
87-86-5	Pentachlorophenol	1	ND		10.0		23-Sep-11 17:13 JAM
85-01-8	Phenanthrene	1	ND		10.0		23-Sep-11 17:13 JAM
108-95-2	Phenol	1	ND		10.0		23-Sep-11 17:13 JAM
129-00-0	Pyrene	1	ND		10.0		23-Sep-11 17:13 JAM
110-86-1	Pyridine	1	ND		10.0		23-Sep-11 17:13 JAM
120-82-1	1,2,4-Trichlorobenzene	1	ND		10.0		23-Sep-11 17:13 JAM
95-95-4	2,4,5-Trichlorophenol	1	ND		10.0		23-Sep-11 17:13 JAM
88-06-2	2,4,6-Trichlorophenol	1	ND		10.0		23-Sep-11 17:13 JAM

62 compound(s) reported

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ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Client: PASI Minnesota

Client ID: BSB-GW-04
Project: 20128374
Project ID: 10169563 / BPAR-Pioneer-MT
Site: None
Lab ID: 20919256
Matrix: Water
% Moisture: n/a
Description: None
Prep Level: Water
Batch: 168775
Method: EPA 8151
8151 Herbs Water
Collected: 13-Sep-11
Received: 17-Sep-11
Prepared: 19-Sep-11

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis	
94-74-6	MCPA	1	ND		250.		21-Sep-11 15:51	SPP1
7085-19-0	MCPP	1	ND		250.		21-Sep-11 15:51	SPP1

2 compound(s) reported

Protocol 9/26/2011 14:10:25

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Surrogate Recovery

Batch: 168747 **Project:** 20128374

Method: Water GC/MS Semivolatile Organics

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20919337	168747 BLANK 1		107	92	89	96	92	117		
20919338	168747 LCS 1		78	73	69	66	71	73		
20919253	BSB-GW-01		142	88	75	97	105	103		
20919254	BSB-GW-02		29	91	27	101	45	113		
20919255	BSB-GW-03		100	88	63	96	96	99		
20919256	BSB-GW-04		140	83	58	92	92	96		
20919404	LPDES 001 MS 1		129	90	72	83	94	70		
20919405	LPDES 001 MSD 1		152 *	76	65	71	102	71		
	QC limits:		25-145	34-117	10-118	33-120	15-134	24-133		

Sur 1: 2,4,6-Tribromophenol (S)
Sur 2: 2-Fluorobiphenyl (S)
Sur 3: 2-Fluorophenol (S)
Sur 4: Nitrobenzene-d5 (S)
Sur 5: Phenol-d5 (S)
Sur 6: Terphenyl-d14 (S)

*** denotes surrogate recovery outside of QC limits.**
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.

Pace Analytical™

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Surrogate Recovery

Batch: 168775 **Project:** 20128374

Method: Water GC Semivolatile Organics

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20919429	168775 BLANK 1		18	18						
20919430	168775 LCS 1		80	78						
20919253	BSB-GW-01		75	75						
20919254	BSB-GW-02		68	68						
20919255	BSB-GW-03		80	81						
20919256	BSB-GW-04		77	75						
	QC limits:		10-166	10-166						

Sur 1: 2,4-DCPA (Conf)(S)
Sur 2: 2,4-DCPA (S)

*** denotes surrogate recovery outside of QC limits.**
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.

Pace Analytical™

Quality Control

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 168747
Method: Water GC/MS Semivolatile Organics
Project: 20128374
Units: ug/L
LCS: 20919338 23-Sep-11 12:58
MS: 20919404 23-Sep-11 13:49
MSD: 20919405 23-Sep-11 14:14
Original for MS: Batch Sample 20918951

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Acenaphthene	50.0	34.7	69	50.0		45.8	38.4	92	77	18	53-110	36-121	20	
Acenaphthylene	50.0	32.3	65	50.0		41.3	35.6	83	71	15	51-110	28-121	20	
Anthracene	50.0	36.6	73	50.0		41.8	37.3	84	75	11	54-110	27-125	20	
Benzo(a)anthracene	50.0	34.3	69	50.0		35.2	31.6	70	63	11	55-110	25-121	20	
Benzo(b)fluoranthene	50.0	35.6	71	50.0		33.6	32.8	67	66	2	48-112	20-130	20	
Benzo(k)fluoranthene	50.0	35.8	72	50.0		31.0	30.4	62	61	2	51-112	19-131	20	
Benzo(g,h,i)perylene	50.0	34.5	69	50.0		32.4	24.6	65	49	28 *	42-116	10-127	20	
Benzo(a)pyrene	50.0	35.1	70	50.0		32.4	29.5	65	59	9	50-110	17-124	20	
4-Bromophenylphenyl ether	50.0	31.5	63	50.0		37.3	33.9	75	68	9	48-118	31-129	20	
Butylbenzylphthalate	50.0	31.0	62	50.0		34.1	33.1	68	66	3	48-117	26-127	20	
4-Chloro-3-methylphenol	50.0	32.2	64	50.0		49.2	49.7	98	99	1	38-110	10-149	20	
bis(2-Chloroethoxy)methane	50.0	29.1	58	50.0		38.3	32.1	77	64	18	41-110	32-121	20	
bis(2-Chloroethyl) ether	50.0	30.9	62	50.0		40.9	36.3	82	73	12	48-110	34-126	20	
2-Chloronaphthalene	50.0	33.0	66	50.0		43.5	35.6	87	71	20	53-110	38-117	20	
2-Chlorophenol	50.0	34.2	68	50.0		44.1	41.6	88	83	6	44-110	10-126	24	
4-Chlorophenylphenyl ether	50.0	32.7	66	50.0		41.4	36.2	83	72	13	51-112	35-124	20	
Chrysene	50.0	33.6	67	50.0		35.4	30.7	71	61	14	54-110	24-122	20	
Dibenz(a,h)anthracene	50.0	34.7	69	50.0		32.4	26.2	65	53	21 *	44-118	14-128	20	
1,2-Dichlorobenzene	50.0	33.4	67	50.0		54.6	46.9	109	94	15	46-110	31-112	20	
1,3-Dichlorobenzene	50.0	33.4	67	50.0		39.4	32.4	79	65	19	43-110	26-110	20	
3,3'-Dichlorobenzidine	50.0	31.9	64	50.0				0 *	0 *	0	21-132	10-148	30	Q1
2,4-Dichlorophenol	50.0	31.8	64	50.0		45.0	41.5	90	83	8	40-110	10-134	22	
Diethylphthalate	50.0	31.4	63	50.0		42.2	37.9	84	76	11	50-116	36-130	20	
2,4-Dimethylphenol	50.0	24.8	50	50.0		45.5	45.3	91	91	1	23-110	10-139	20	
Dimethylphthalate	50.0	30.7	61	50.0		40.8	36.3	82	73	12	52-112	39-125	20	
4,6-Dinitro-2-methylphenol	50.0	32.8	66	50.0		48.2	37.8	96	76	24	34-117	10-155	29	
2,4-Dinitrophenol	50.0	34.5	69	50.0		54.0	42.0	108	84	25	10-130	10-168	31	
2,4-Dinitrotoluene	50.0	32.5	65	50.0		47.9	38.7	96	77	21 *	49-113	37-126	20	
2,6-Dinitrotoluene	50.0	33.5	67	50.0		43.8	39.0	88	78	12	52-112	40-126	20	
Di-n-octylphthalate	50.0	33.1	66	50.0		27.1	35.1	54	70	26 *	41-126	12-145	20	
bis(2-Ethylhexyl)phthalate	50.0	31.1	62	50.0		29.0	31.2	58	62	7	46-123	18-133	20	
Fluoranthene	50.0	34.0	68	50.0		40.6	33.4	81	67	20	48-114	30-127	20	
Fluorene	50.0	33.8	68	50.0		44.5	38.4	89	77	15	52-110	37-125	20	
Hexachloro-1,3-butadiene	50.0	31.7	64	50.0		36.3	28.5	73	57	24 *	33-110	18-112	20	
Hexachlorobenzene	50.0	33.6	67	50.0		36.1	34.0	72	68	6	51-110	27-122	20	
Hexachlorocyclopentadiene	50.0	18.4	37	50.0		17.1	12.8	34	26	29 *	10-110	10-110	20	
Hexachloroethane	50.0	33.2	66	50.0		39.5	32.6	79	65	19	40-110	23-110	20	
Indeno(1,2,3-cd)pyrene	50.0	34.4	69	50.0		32.2	25.8	64	52	22 *	45-115	13-126	20	
Isophorone	50.0	29.9	60	50.0		40.6	35.0	81	70	15	42-110	33-123	20	
2-Methylnaphthalene	50.0	31.0	62	50.0		39.1	34.6	78	69	12	42-110	30-116	20	
2-Methylphenol (o-Cresol)	50.0	33.6	67	50.0		49.9	53.0	100	106	6	47-110	10-137	20	

*** denotes recovery outside of QC limits.**
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

QC Protocol 9/26/2011 14:10:27

Quality Control

Batch: 168747 **Project:** 20128374 **LCS:** 20919338 23-Sep-11 12:58

Method: Water GC/MS Semivolatile Organics **MS:** 20919404 23-Sep-11 13:49

Units: ug/L **MSD:** 20919405 23-Sep-11 14:14

Original for MS: Batch Sample 20918951

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
3&4-Methylphenol	50.0	31.9	64	50.0		50.7	58.6	102	117	14	44-110	10-158	20	
Naphthalene	50.0	35.3	71	50.0		44.8	38.7	90	78	15	38-110	22-121	20	
Nitrobenzene	50.0	31.2	62	50.0		74.1	63.0	148	126	16	42-110	15-155	20	
2-Nitrophenol	50.0	32.0	64	50.0		52.0	44.1	104	88	16	39-110	10-136	23	
4-Nitrophenol	50.0	32.1	64	50.0		24.0	29.1	48	58	19	28-126	10-179	27	
N-Nitrosodimethylamine	50.0	30.9	62	50.0		42.8	31.2	86	62	31 *	42-115	25-128	20	
N-Nitroso-di-n-propylamine	50.0	31.1	62	50.0		42.7	41.1	85	82	4	47-116	35-133	20	
N-Nitrosodiphenylamine	50.0	40.0	80	50.0		47.3	45.2	95	91	4	39-125	10-146	20	
2,2'-Oxybis(1-chloropropane)	50.0	31.3	63	50.0		42.6	34.9	85	70	20	39-118	31-128	20	
Pentachlorophenol	50.0	35.0	70	50.0		53.0	52.1	106	104	2	31-122	10-153	27	
Phenanthrene	50.0	34.1	68	50.0		44.6	37.8	89	76	17	54-110	35-124	20	
Phenol	50.0	34.0	68	50.0		80.8	74.3	162 *	149 *	8	42-110	10-143	20	Q1
Pyrene	50.0	33.0	66	50.0		36.5	35.5	73	71	3	47-114	26-123	20	
Pyridine	50.0	33.3	67	50.0		48.5	31.5	97	63	42 *	24-113	10-131	32	
1,2,4-Trichlorobenzene	50.0	31.0	62	50.0		38.3	30.9	77	62	22 *	38-110	25-111	20	
2,4,5-Trichlorophenol	50.0	33.9	68	50.0		53.5	49.4	107	99	8	46-110	10-136	25	
2,4,6-Trichlorophenol	50.0	36.9	74	50.0		54.7	47.9	109	96	13	47-110	10-137	25	

58 compound(s) reported

* denotes recovery outside of QC limits.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

Quality Control

Batch: 168775 **Project:** 20128374 **LCS:** 20919430 21-Sep-11 14:19

Method: Water GC Semivolatile Organics **MS:**

Units: ug/L **MSD:**

Original for MS:

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
MCPA	2000	870.	44								10-145			Q5
MCPP	2000	1660	83								24-145			Q5

2 compound(s) reported

* denotes recovery outside of QC limits.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

QC Protocol 9/26/2011 14:10:27

Blank Results

Blank ID: 168747 BLANK 1 **Project:** 20128374

Lab ID: 20919337

Prep Level: Water **Batch:** 168747

Method: Water GC/MS Semivolatile Organics

Prepared: 19-Sep-11

Units: ug/L

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
83-32-9	Acenaphthene	1	ND		10.0	23-Sep-11 12:33 JAM
208-96-8	Acenaphthylene	1	ND		10.0	23-Sep-11 12:33 JAM
120-12-7	Anthracene	1	ND		10.0	23-Sep-11 12:33 JAM
56-55-3	Benzo(a)anthracene	1	ND		10.0	23-Sep-11 12:33 JAM
205-99-2	Benzo(b)fluoranthene	1	ND		10.0	23-Sep-11 12:33 JAM
207-08-9	Benzo(k)fluoranthene	1	ND		10.0	23-Sep-11 12:33 JAM
191-24-2	Benzo(g,h,i)perylene	1	ND		10.0	23-Sep-11 12:33 JAM
50-32-8	Benzo(a)pyrene	1	ND		10.0	23-Sep-11 12:33 JAM
101-55-3	4-Bromophenylphenyl ether	1	ND		10.0	23-Sep-11 12:33 JAM
85-68-7	Butylbenzylphthalate	1	ND		10.0	23-Sep-11 12:33 JAM
59-50-7	4-Chloro-3-methylphenol	1	ND		10.0	23-Sep-11 12:33 JAM
111-91-1	bis(2-Chloroethoxy)methane	1	ND		10.0	23-Sep-11 12:33 JAM
111-44-4	bis(2-Chloroethyl) ether	1	ND		10.0	23-Sep-11 12:33 JAM
91-58-7	2-Chloronaphthalene	1	ND		10.0	23-Sep-11 12:33 JAM
95-57-8	2-Chlorophenol	1	ND		10.0	23-Sep-11 12:33 JAM
7005-72-3	4-Chlorophenylphenyl ether	1	ND		10.0	23-Sep-11 12:33 JAM
218-01-9	Chrysene	1	ND		10.0	23-Sep-11 12:33 JAM
53-70-3	Dibenz(a,h)anthracene	1	ND		10.0	23-Sep-11 12:33 JAM
95-50-1	1,2-Dichlorobenzene	1	ND		10.0	23-Sep-11 12:33 JAM
541-73-1	1,3-Dichlorobenzene	1	ND		10.0	23-Sep-11 12:33 JAM
91-94-1	3,3'-Dichlorobenzidine	1	ND		20.0	23-Sep-11 12:33 JAM
120-83-2	2,4-Dichlorophenol	1	ND		10.0	23-Sep-11 12:33 JAM
84-66-2	Diethylphthalate	1	ND		10.0	23-Sep-11 12:33 JAM
105-67-9	2,4-Dimethylphenol	1	ND		10.0	23-Sep-11 12:33 JAM
131-11-3	Dimethylphthalate	1	ND		10.0	23-Sep-11 12:33 JAM
534-52-1	4,6-Dinitro-2-methylphenol	1	ND		10.0	23-Sep-11 12:33 JAM
51-28-5	2,4-Dinitrophenol	1	ND		10.0	23-Sep-11 12:33 JAM
121-14-2	2,4-Dinitrotoluene	1	ND		10.0	23-Sep-11 12:33 JAM
606-20-2	2,6-Dinitrotoluene	1	ND		10.0	23-Sep-11 12:33 JAM
117-84-0	Di-n-octylphthalate	1	ND		10.0	23-Sep-11 12:33 JAM
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		10.0	23-Sep-11 12:33 JAM
206-44-0	Fluoranthene	1	ND		10.0	23-Sep-11 12:33 JAM
86-73-7	Fluorene	1	ND		10.0	23-Sep-11 12:33 JAM
87-68-3	Hexachloro-1,3-butadiene	1	ND		10.0	23-Sep-11 12:33 JAM

Protocol Blank 9/26/2011 14:10:2

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Blank Results

Blank ID: 168747 BLANK 1 **Project:** 20128374

Lab ID: 20919337

Prep Level: Water **Batch:** 168747

Method: Water GC/MS Semivolatile Organics

Prepared: 19-Sep-11

Units: ug/L

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis	
118-74-1	Hexachlorobenzene	1	ND		10.0	23-Sep-11 12:33	JAM
77-47-4	Hexachlorocyclopentadiene	1	ND		10.0	23-Sep-11 12:33	JAM
67-72-1	Hexachloroethane	1	ND		10.0	23-Sep-11 12:33	JAM
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		10.0	23-Sep-11 12:33	JAM
78-59-1	Isophorone	1	ND		10.0	23-Sep-11 12:33	JAM
91-57-6	2-Methylnaphthalene	1	ND		10.0	23-Sep-11 12:33	JAM
95-48-7	2-Methylphenol (o-Cresol)	1	ND		10.0	23-Sep-11 12:33	JAM
	3&4-Methylphenol	1	ND		10.0	23-Sep-11 12:33	JAM
91-20-3	Naphthalene	1	ND		10.0	23-Sep-11 12:33	JAM
98-95-3	Nitrobenzene	1	ND		10.0	23-Sep-11 12:33	JAM
88-75-5	2-Nitrophenol	1	ND		10.0	23-Sep-11 12:33	JAM
100-02-7	4-Nitrophenol	1	ND		10.0	23-Sep-11 12:33	JAM
62-75-9	N-Nitrosodimethylamine	1	ND		10.0	23-Sep-11 12:33	JAM
621-64-7	N-Nitroso-di-n-propylamine	1	ND		10.0	23-Sep-11 12:33	JAM
86-30-6	N-Nitrosodiphenylamine	1	ND		10.0	23-Sep-11 12:33	JAM
108-60-1	2,2'-Oxybis(1-chloropropane)	1	ND		10.0	23-Sep-11 12:33	JAM
87-86-5	Pentachlorophenol	1	ND		10.0	23-Sep-11 12:33	JAM
85-01-8	Phenanthrene	1	ND		10.0	23-Sep-11 12:33	JAM
108-95-2	Phenol	1	ND		10.0	23-Sep-11 12:33	JAM
129-00-0	Pyrene	1	ND		10.0	23-Sep-11 12:33	JAM
110-86-1	Pyridine	1	ND		10.0	23-Sep-11 12:33	JAM
120-82-1	1,2,4-Trichlorobenzene	1	ND		10.0	23-Sep-11 12:33	JAM
95-95-4	2,4,5-Trichlorophenol	1	ND		10.0	23-Sep-11 12:33	JAM
88-06-2	2,4,6-Trichlorophenol	1	ND		10.0	23-Sep-11 12:33	JAM

58 compound(s) reported

Protocol Blank 9/26/2011 14:10:2

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Blank Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Blank ID: 168775 BLANK 1 **Project:** 20128374

Lab ID: 20919429

Prep Level: Water **Batch:** 168775

Method: Water GC Semivolatile Organics

Prepared: 19-Sep-11

Units: ug/L

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
94-74-6	MCPA	1	ND		250.	21-Sep-11 13:57 SPP1
7085-19-0	MCPP	1	ND		250.	21-Sep-11 13:57 SPP1

2 compound(s) reported

Protocol Blank 9/26/2011 14:10:2

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Project: 20128374

Value	Description
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q5	Insufficient sample was provided to perform matrix spike analyses on any sample in this analytical batch. Method performance for this analyte has been demonstrated by the laboratory control sample recovery.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
LCS	Laboratory Control Sample.
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

PASI-MINN

Chain of Custody

Workorder: 10169563 Workorder Name: BP-PIONEER-MT Old Landfill/Cla Owner Received Date: 9/15/2011 Results Requested By: 9/28/2011

Report To	Subcontract To
Julie Thieschafer Pace Analytical Services, Inc. 1700 Elm Street, Suite 200 Minneapolis, MN 55414 Phone (612)607-1700 Fax (612)607-6444	Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333

						Preserved Containers						Requested Analysis												
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved						8270	8151											LAB USE ONLY
1	BSB-GW-01	PS	9/12/2011 12:25	10169563001	Water	3						X	X											20919253
2	BSB-GW-02	PS	9/12/2011 15:15	10169563002	Water	3						|	|											254
3	BSB-GW-03	PS	9/12/2011 16:00	10169563003	Water	3						|	|											255
4	BSB-GW-04	PS	9/13/2011 00:00	10169563004	Water	3						X	X											256
5																								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1		9/16/11 1700	Fed Ex		
2	Fed Ex			09/17/11 0900 ~~0915~~ KB	
3					

Cooler Temperature on Receipt 2.0 °C | Custody Seal [✓ Y] or N | Received on Ice [✓ Y] or N | Samples Intact Y or [✓ N]

1 Broken Amber

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condi

20128374 PASI-MINN

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals Intact: ☑ Yes ☐ No

Therometer Used:
- ☑ Therm Fisher IR 1
- ☐ Therm Fisher IR 2
- ☐ Therm Fisher IR 4

Type of Ice: [✓ Wet] Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JN 9/17/11

Temp must be measured from Temperature blank when present

			Comments:
Temperature Blank Present"?	☑ Yes ☐ No ☐ N/A	1	
Chain of Custody Present:	☑ Yes ☐ No ☐ N/A	2	
Chain of Custody Complete:	☑ Yes ☐ No ☐ N/A	3	
Chain of Custody Relinquished:	☑ Yes ☐ No ☐ N/A	4	
Sampler Name & Signature on COC:	☑ Yes ☐ No ☐ N/A	5	
Samples Arrived within Hold Time:	☑ Yes ☐ No ☐ N/A	6	
Sufficient Volume:	☑ Yes ☐ No ☐ N/A	7	1 Broken Amber BSB-GW-02
Correct Containers Used:	☑ Yes ☐ No ☐ N/A	8	
Filtered vol. Rec. for Diss. tests	☐ Yes ☑ No ☐ N/A	9	
Sample Labels match COC:	☑ Yes ☐ No ☐ N/A	10	
All containers received within manafacture's precautionary and/or expiration dates.	☑ Yes ☐ No ☐ N/A	11	
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☑ Yes ☐ No ☐ N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	☑ Yes ☐ No ☐ N/A	13	If No, was preserative added? ☐ Yes ☐ No If added record lot no.: HNO3 ______ H2SO4 ______
Samples checked for dechlorination:	☐ Yes ☑ No ☐ N/A	14	
Headspace in VOA Vials (>6mm):	☐ Yes ☑ No ☐ N/A	14	
Trip Blank Present:	☐ Yes ☑ No ☐ N/A	16	
Trip Blank Custody Seals Present	☐ Yes ☑ No ☐ N/A	17	
Pace Trip Blank Lot # (if purchased): N/A		18	

Client Notification/ Resolution:

Person Contacted: ______________________ Date/Time: ______________

Comments/ Resolution: ______________________

20919254
PASI-MINN
BSB-GW-02
20128374-002
Cont: GL 3of3
Loc: OPREP
Col: 09/12/11
15:15
Broken
SEP 17

ALLC003rev.06, 28Jul2010 - mod

1147
1148
1149
10169563

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A
Required Client Information:

Company: Pioneer Technical
Address: 63 1/2 W. Broadway
Butte, MT 59701
Email To: sbisch@pioneer-techinical.com
Phone: 406-533-9371 Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: Shawn Bisch
Copy To:
Purchase Order No.:
Project Name: Old Landfill
Project Number:

Section C
Invoice Information: Rick Larson
Attention: ~~Gary Keeler~~ (406-497-6575)
Company Name: BSB Public Works Dept
Address: 126 W. Granite, Butte, Mt 59701
Pace Quote Reference:
Pace Project Manager: Julie Thieschafer
Pace Profile #: 21705

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: mt

Section D
Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Cyanide	Nitrate+Nitrite	COD	8270	8151	8260	Diss Metals						Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BSB-GW-01	WT	G	9/12/11	1225			11	11	5	1	1	3	1				✓	✓	✓	✓	✓	✓	✓							10169563001
2	BSB-GW-02	WT	G	9/12/11	1515			16.7	10	5	1		3	1				✓	✓	✓	✓	✓	✓								002
3	BSB-GW-03	WT	G	9/12/11	1600			14.5	10	5	1		3	1				✓	✓	✓	✓	✓	✓								003
4	BSB-GW-04	WT	G	9/13/11				15.1	10	5	1		3	1				✓	✓	✓	✓	✓	✓								004
5	~~BSB-GW-05~~	~~WT~~	~~G~~	~~9/13/11~~					~~2~~	~~1~~		~~1~~												~~✓~~							J 9/13/11
6	~~BSB-GW-06~~	~~WT~~	~~G~~	~~9/13/11~~	~~1325~~				~~2~~	~~1~~		~~1~~												~~✓~~							9/13/11
7																															
8																															
9																															
10																															
11																															
12																															

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
					9-15-11	1000	0.9	Y	Y	Y
							3.9	Y	Y	Y
							2.5	Y	Y	Y

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brad Hollamon / Julie Flammang
SIGNATURE of SAMPLER: Julie Flammang
DATE Signed (MM/DD/YY): 9/14/11

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form - ESI**	Revised Date: 02Jun2011 Page 1 of 1
	Document Number: **F-L-210 Rev.04**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: BP Pioneer   Project # 10169563

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ______

Tracking #: 875347525611, 5600, 874196167521

Custody Seal on Cooler/Box Present: ☒ yes ☐ no   Seals intact: ☒ yes ☐ no

Optional:
Proj. Due Date:
Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other ______   Temp. Blank Yes X No ______

Thermometer Used [✓ 80344042] or 80512447   **Type of Ice:** [✓ Wet] Blue None   ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.9, 3.9, 2.5   **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

Date and Initials of person examining contents: 9-15-11 MS

Comments:

Chain of Custody Present:	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished:	☐ Yes	☒ No	☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume: triple volume provided for MS/MSD	☐ Yes	☒ No	☐ N/A	8.
Correct Containers Used:	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used:	☒ Yes	☐ No	☐ N/A	
Containers Intact:	☒ Yes	☐ No	☐ N/A	10.
Filtered volume received for Dissolved tests	☒ Yes	☐ No	☐ N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked.	☒ Yes	☐ No	☐ N/A	13. ☒ HNO3 ☒ H2SO4 ☒ NaOH ☐ HCl Samp # 1/1/1/1 01; 1/1/1, 1/1/1, 1/1/1 02, 03, 04
All containers needing preservation are found to be in compliance with EPA recommendation.	☒ Yes	☐ No	☐ N/A	
Per method, VOA pH is checked after analysis				Initial when completed NP Lot # of added preservative
Samples checked for dechlorination:	☐ Yes	☐ No	☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes	☒ No	☐ N/A	15.
3 Trip Blanks Present:	☒ Yes	☐ No	☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased): 083111-1				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Julie Flammang   Date/Time: 9/16/11

Comments/ Resolution:

Spoke w/ Julie about volume provided for Cl, Cond, SO4 + pH but no tests requested per Julie please add all analyses to each sample

Temp Log: Temp must be maintained at <6 C during login, record temp every 20 mins	
Opened time: ~~[illegible]~~ Temp:	
Time: 1332 put in cooler	
Time: 1352 Temp: 0.9, 3.9, 2.5	

Project Manager Review: Date: 9/16/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

September 29, 2011

Shawn Bisch
PIONEER-MT
307 E. Park Ave
Suite 421
Anaconda, MT 59711

RE: Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Dear Shawn Bisch:

Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Julie Thieschafer

julie.thieschafer@pacelabs.com
Project Manager

Enclosures

CERTIFICATIONS

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Minnesota Certification IDs
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

SAMPLE SUMMARY

Project:	BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.:	10169546

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10169546001	**BSB-GW-05**	Water	09/13/11 14:34	09/15/11 10:00
10169546002	**BSB-GW-06**	Water	09/13/11 13:25	09/15/11 10:00

SAMPLE ANALYTE COUNT

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10169546001	**BSB-GW-05**	EPA 200.8	TL1	16	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 120.1	RLB	1	PASI-M
		SM 4500-H+B	RLB	1	PASI-M
		ASTM D516-02	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10169546002	**BSB-GW-06**	EPA 200.8	TL1	16	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 120.1	RLB	1	PASI-M
		SM 4500-H+B	RLB	1	PASI-M
		ASTM D516-02	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M

PROJECT NARRATIVE

Project:	BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.:	10169546

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: September 29, 2011

General Information:
2 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

B: Analyte was detected in the associated method blank.
- BSB-GW-05 (Lab ID: 10169546001)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/28519

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10169546001,10169740002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 1057652)
  - Barium, Dissolved

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- MS (Lab ID: 1057650)
  - Iron, Dissolved
  - Silver, Dissolved
  - Zinc, Dissolved
- MSD (Lab ID: 1057651)
  - Iron, Dissolved
  - Silver, Dissolved
  - Zinc, Dissolved

PROJECT NARRATIVE

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: September 29, 2011

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: MPRP/28519

B: Analyte was detected in the associated method blank.
- BSB-GW-05 (Lab ID: 10169546001)
  - Beryllium, Dissolved

PROJECT NARRATIVE

Project:	BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.:	10169546

Method: **EPA 245.1**
Description: 245.1 Mercury, Dissolved
Client: BPAR-PIONEER-MT
Date: September 29, 2011

General Information:
2 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MERP/6017

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10169546002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1061598)
  - Mercury, Dissolved
- MSD (Lab ID: 1061599)
  - Mercury, Dissolved

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Method: **EPA 120.1**
Description: 120.1 Specific Conductance
Client: BPAR-PIONEER-MT
Date: September 29, 2011

General Information:
2 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

B: Analyte was detected in the associated method blank.
- BSB-GW-05 (Lab ID: 10169546001)
- BSB-GW-06 (Lab ID: 10169546002)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: WET/23579

B: Analyte was detected in the associated method blank.
- BSB-GW-05 (Lab ID: 10169546001)
  - Specific Conductance
- BSB-GW-06 (Lab ID: 10169546002)
  - Specific Conductance

PROJECT NARRATIVE

Project:	BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.:	10169546

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: BPAR-PIONEER-MT
Date: September 29, 2011

General Information:
2 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated more than 15 minutes after sample collection.
- BSB-GW-05 (Lab ID: 10169546001)
- BSB-GW-06 (Lab ID: 10169546002)

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Method: **ASTM D516-02 .**
Description: ASTM D516-90 Sulfate Water
Client: BPAR-PIONEER-MT
Date: September 29, 2011

General Information:
2 samples were analyzed for ASTM D516-02. All samples were received in acceptable condition with any exceptions noted below.

B: Analyte was detected in the associated method blank.
- BSB-GW-05 (Lab ID: 10169546001)
- BSB-GW-06 (Lab ID: 10169546002)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/11075

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10168523009,10169563001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- MS (Lab ID: 1056791)
  - Sulfate
- MSD (Lab ID: 1056790)
  - Sulfate
- MSD (Lab ID: 1056792)
  - Sulfate

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Method: **ASTM D516-02**
Description: ASTM D516-90 Sulfate Water
Client: BPAR-PIONEER-MT
Date: September 29, 2011

Analyte Comments:

QC Batch: WETA/11075

B: Analyte was detected in the associated method blank.

- BSB-GW-05 (Lab ID: 10169546001)
  - Sulfate
- BSB-GW-06 (Lab ID: 10169546002)
  - Sulfate

PROJECT NARRATIVE

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Method: **SM 4500-Cl E**
Description: SM4500Cl-E Chloride
Client: BPAR-PIONEER-MT
Date: September 29, 2011

General Information:
2 samples were analyzed for SM 4500-Cl E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Sample: BSB-GW-05 CLK-1 **Lab ID: 10169546001** Collected: 09/13/11 14:34 Received: 09/15/11 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	**0.00012J**	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/22/11 20:07	7440-36-0	
Arsenic, Dissolved	**0.13**	mg/L	0.00050	0.000090	1	09/20/11 15:19	09/22/11 20:07	7440-38-2	
Barium, Dissolved	**0.022**	mg/L	0.00030	0.000080	1	09/20/11 15:19	09/22/11 20:07	7440-39-3	
Beryllium, Dissolved	**0.00034**	mg/L	0.00020	0.000020	1	09/20/11 15:19	09/22/11 20:07	7440-41-7	B
Cadmium, Dissolved	**0.014**	mg/L	0.000080	0.000030	1	09/20/11 15:19	09/22/11 20:07	7440-43-9	
Chromium, Dissolved	**0.00015J**	mg/L	0.00050	0.00010	1	09/20/11 15:19	09/22/11 20:07	7440-47-3	
Cobalt, Dissolved	**0.046**	mg/L	0.00050	0.00025	1	09/20/11 15:19	09/22/11 20:07	7440-48-4	
Copper, Dissolved	**0.00086**	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/22/11 20:07	7440-50-8	
Iron, Dissolved	**14.7**	mg/L	0.050	0.0047	1	09/20/11 15:19	09/23/11 12:48	7439-89-6	M6
Lead, Dissolved	ND	mg/L	0.00010	0.000050	1	09/20/11 15:19	09/22/11 20:07	7439-92-1	
Nickel, Dissolved	**0.037**	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/22/11 20:07	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00022	1	09/20/11 15:19	09/22/11 20:07	7782-49-2	
Silver, Dissolved	ND	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/22/11 20:07	7440-22-4	M6
Thallium, Dissolved	ND	mg/L	0.00010	0.000050	1	09/20/11 15:19	09/22/11 20:07	7440-28-0	
Vanadium, Dissolved	**0.00039**	mg/L	0.00010	0.000050	1	09/20/11 15:19	09/22/11 20:07	7440-62-2	
Zinc, Dissolved	**52.2**	mg/L	5.0	2.5	1000	09/20/11 15:19	09/22/11 20:25	7440-66-6	M6
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	ND	mg/L	0.00020	0.000037	1	09/23/11 20:54	09/28/11 14:31	7439-97-6	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1710**	umhos/cm	1.0	0.50	1		09/22/11 10:06		B
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.0**	Std. Units	0.10	0.050	1		09/18/11 09:32		H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-02								
Sulfate	**800**	mg/L	125	13.5	50		09/19/11 12:26	14808-79-8	B
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**32.7**	mg/L	2.0	0.83	1		09/20/11 12:15	16887-00-6	

ANALYTICAL RESULTS

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

Sample: BSB-GW-06 CLK-2 **Lab ID: 10169546002** Collected: 09/13/11 13:25 Received: 09/15/11 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	**0.000079J**	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/23/11 12:56	7440-36-0	
Arsenic, Dissolved	**0.0014**	mg/L	0.00050	0.000090	1	09/20/11 15:19	09/23/11 12:56	7440-38-2	
Barium, Dissolved	**0.038**	mg/L	0.00030	0.000080	1	09/20/11 15:19	09/23/11 12:56	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000020	1	09/20/11 15:19	09/23/11 12:56	7440-41-7	
Cadmium, Dissolved	**0.00020**	mg/L	0.000080	0.000030	1	09/20/11 15:19	09/23/11 12:56	7440-43-9	
Chromium, Dissolved	**0.00067**	mg/L	0.00050	0.00010	1	09/20/11 15:19	09/23/11 12:56	7440-47-3	
Cobalt, Dissolved	ND	mg/L	0.00050	0.00025	1	09/20/11 15:19	09/23/11 12:56	7440-48-4	
Copper, Dissolved	**0.0024**	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/23/11 12:56	7440-50-8	
Iron, Dissolved	**0.0091J**	mg/L	0.050	0.0047	1	09/20/11 15:19	09/23/11 12:56	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000050	1	09/20/11 15:19	09/23/11 12:56	7439-92-1	
Nickel, Dissolved	**0.0051**	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/23/11 12:56	7440-02-0	
Selenium, Dissolved	**0.00093**	mg/L	0.00050	0.00022	1	09/20/11 15:19	09/23/11 12:56	7782-49-2	
Silver, Dissolved	ND	mg/L	0.00050	0.000070	1	09/20/11 15:19	09/23/11 12:56	7440-22-4	
Thallium, Dissolved	ND	mg/L	0.00010	0.000050	1	09/20/11 15:19	09/23/11 12:56	7440-28-0	
Vanadium, Dissolved	**0.0036**	mg/L	0.00010	0.000050	1	09/20/11 15:19	09/23/11 12:56	7440-62-2	
Zinc, Dissolved	**0.099**	mg/L	0.0050	0.0025	1	09/20/11 15:19	09/23/11 12:56	7440-66-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	ND	mg/L	0.00020	0.000037	1	09/23/11 20:54	09/28/11 14:33	7439-97-6	M1
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1680**	umhos/cm	1.0	0.50	1		09/22/11 10:09		B
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.6**	Std. Units	0.10	0.050	1		09/18/11 09:30		H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-02								
Sulfate	**657**	mg/L	125	13.5	50		09/19/11 12:27	14808-79-8	B
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**63.0**	mg/L	4.0	1.7	2		09/20/11 12:23	16887-00-6	

QUALITY CONTROL DATA

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

QC Batch: MPRP/28519
Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 10169546001, 10169546002

METHOD BLANK: 1057648
Matrix: Water
Associated Lab Samples: 10169546001, 10169546002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Arsenic, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Barium, Dissolved	mg/L	ND	0.00030	09/22/11 20:03	
Beryllium, Dissolved	mg/L	0.000028J	0.00020	09/22/11 20:03	
Cadmium, Dissolved	mg/L	ND	0.000080	09/22/11 20:03	
Chromium, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Cobalt, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Copper, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Iron, Dissolved	mg/L	ND	0.050	09/22/11 20:03	
Lead, Dissolved	mg/L	ND	0.00010	09/22/11 20:03	
Nickel, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Selenium, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Silver, Dissolved	mg/L	ND	0.00050	09/22/11 20:03	
Thallium, Dissolved	mg/L	ND	0.00010	09/22/11 20:03	
Vanadium, Dissolved	mg/L	ND	0.00010	09/22/11 20:03	
Zinc, Dissolved	mg/L	ND	0.0050	09/22/11 20:03	

LABORATORY CONTROL SAMPLE: 1057649

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	.08	0.078	98	85-115	
Arsenic, Dissolved	mg/L	.08	0.078	98	85-115	
Barium, Dissolved	mg/L	.08	0.078	98	85-115	
Beryllium, Dissolved	mg/L	.08	0.074	93	85-115	
Cadmium, Dissolved	mg/L	.08	0.080	100	85-115	
Chromium, Dissolved	mg/L	.08	0.079	99	85-115	
Cobalt, Dissolved	mg/L	.08	0.078	98	85-115	
Copper, Dissolved	mg/L	.08	0.082	103	85-115	
Iron, Dissolved	mg/L	1	1.1	106	85-115	
Lead, Dissolved	mg/L	.08	0.080	100	85-115	
Nickel, Dissolved	mg/L	.08	0.083	104	85-115	
Selenium, Dissolved	mg/L	.08	0.078	97	85-115	
Silver, Dissolved	mg/L	.08	0.079	99	85-115	
Thallium, Dissolved	mg/L	.08	0.083	104	85-115	
Vanadium, Dissolved	mg/L	.08	0.079	98	85-115	
Zinc, Dissolved	mg/L	.08	0.081	101	85-115	

QUALITY CONTROL DATA

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1057650 1057651

Parameter	Units	10169546001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	mg/L	0.00012 J	.08	.08	0.079	0.081	98	100	70-130	3	20	
Arsenic, Dissolved	mg/L	0.13	.08	.08	0.21	0.21	96	102	70-130	2	20	
Barium, Dissolved	mg/L	0.022	.08	.08	0.099	0.10	97	100	70-130	2	20	
Beryllium, Dissolved	mg/L	0.00034	.08	.08	0.074	0.072	92	90	70-130	2	20	
Cadmium, Dissolved	mg/L	0.014	.08	.08	0.093	0.098	99	105	70-130	5	20	
Chromium, Dissolved	mg/L	0.00015 J	.08	.08	0.079	0.081	98	101	70-130	2	20	
Cobalt, Dissolved	mg/L	0.046	.08	.08	0.12	0.13	97	102	70-130	3	20	
Copper, Dissolved	mg/L	0.00086	.08	.08	0.083	0.083	102	103	70-130	.4	20	
Iron, Dissolved	mg/L	14.7	1	1	17.3	17.8	260	303	70-130	2	20	M6
Lead, Dissolved	mg/L	ND	.08	.08	0.079	0.081	99	101	70-130	3	20	
Nickel, Dissolved	mg/L	0.037	.08	.08	0.12	0.12	101	107	70-130	4	20	
Selenium, Dissolved	mg/L	ND	.08	.08	0.079	0.081	99	101	70-130	2	20	
Silver, Dissolved	mg/L	ND	.08	.08	0.052	0.052	65	65	70-130	.4	20	M6
Thallium, Dissolved	mg/L	ND	.08	.08	0.081	0.082	101	102	70-130	1	20	
Vanadium, Dissolved	mg/L	0.00039	.08	.08	0.080	0.084	100	104	70-130	4	20	
Zinc, Dissolved	mg/L	52.2	.08	.08	56.7	58.2	5620	7440	70-130	3	20	M6

MATRIX SPIKE SAMPLE: 1057652

Parameter	Units	10169740002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	<0.50 ug/L	.08	0.079	99	70-130	
Arsenic, Dissolved	mg/L	<0.50 ug/L	.08	0.081	101	70-130	
Barium, Dissolved	mg/L	<0.30 ug/L	.08	0.17	217	70-130	M1
Beryllium, Dissolved	mg/L	<0.20 ug/L	.08	0.076	96	70-130	
Cadmium, Dissolved	mg/L	<0.080 ug/L	.08	0.080	100	70-130	
Chromium, Dissolved	mg/L	<0.50 ug/L	.08	0.078	98	70-130	
Cobalt, Dissolved	mg/L	<0.50 ug/L	.08	0.078	97	70-130	
Copper, Dissolved	mg/L	<0.50 ug/L	.08	0.080	100	70-130	
Iron, Dissolved	mg/L	<50.0 ug/L	1	1.1	106	70-130	
Lead, Dissolved	mg/L	<0.10 ug/L	.08	0.078	98	70-130	
Nickel, Dissolved	mg/L	<0.50 ug/L	.08	0.082	102	70-130	
Selenium, Dissolved	mg/L	<0.50 ug/L	.08	0.081	101	70-130	
Silver, Dissolved	mg/L	<0.50 ug/L	.08	0.067	84	70-130	
Thallium, Dissolved	mg/L	<0.10 ug/L	.08	0.080	99	70-130	
Vanadium, Dissolved	mg/L	<0.10 ug/L	.08	0.080	99	70-130	
Zinc, Dissolved	mg/L	<5.0 ug/L	.08	0.086	108	70-130	

QUALITY CONTROL DATA

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

QC Batch: MERP/6017
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 10169546001, 10169546002

METHOD BLANK: 1059178
Matrix: Water
Associated Lab Samples: 10169546001, 10169546002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	mg/L	ND	0.00020	09/28/11 14:27	

LABORATORY CONTROL SAMPLE: 1059179

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	mg/L	.005	0.0051	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1061598 1061599

Parameter	Units	10169546002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	mg/L	ND	.005	.005	0.0060	0.0071	119	142	85-115	18	20	M1

QUALITY CONTROL DATA

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

QC Batch: WET/23579
Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10169546001, 10169546002

METHOD BLANK: 1059578
Matrix: Water
Associated Lab Samples: 10169546001, 10169546002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	0.89J	1.0	09/22/11 09:56	

LABORATORY CONTROL SAMPLE: 1059579

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	988	99	90-110	

SAMPLE DUPLICATE: 1059580

Parameter	Units	10169546001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1710	1700	.7	20	

SAMPLE DUPLICATE: 1059581

Parameter	Units	10169907003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	379	390	3	20	

QUALITY CONTROL DATA

Project:	BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.:	10169546

QC Batch:	WET/23534	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH

Associated Lab Samples: 10169546001, 10169546002

LABORATORY CONTROL SAMPLE: 1055475

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	99	98-102	H6

SAMPLE DUPLICATE: 1055473

Parameter	Units	10169288001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.7	8.7	.2	3	H6

SAMPLE DUPLICATE: 1055474

Parameter	Units	10169629001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.9	.6	3	H6

QUALITY CONTROL DATA

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

QC Batch: WETA/11075
Analysis Method: ASTM D516-02
QC Batch Method: ASTM D516-02
Analysis Description: ASTM D516-9002 Sulfate Water
Associated Lab Samples: 10169546001, 10169546002

METHOD BLANK: 1056787
Matrix: Water
Associated Lab Samples: 10169546001, 10169546002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	0.67J	2.5	09/19/11 11:50	

LABORATORY CONTROL SAMPLE: 1056788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	7.5	6.5	87	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1056789 1056790

Parameter	Units	10168523009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	1470	2000	2000	3090	3030	81	78	80-120	2	30	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1056791 1056792

Parameter	Units	10169563001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	141	200	200	296	291	78	75	80-120	2	30	M6

QUALITY CONTROL DATA

Project:	BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.:	10169546

QC Batch:	WETA/11083	Analysis Method:	SM 4500-Cl E
QC Batch Method:	SM 4500-Cl E	Analysis Description:	SM4500Cl-E Chloride

Associated Lab Samples: 10169546001, 10169546002

METHOD BLANK: 1057798 Matrix: Water

Associated Lab Samples: 10169546001, 10169546002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	2.0	09/20/11 12:15	

LABORATORY CONTROL SAMPLE: 1057799

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	30	31.1	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1057800 1057801

Parameter	Units	10169534001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	33.5	30	30	59.4	59.6	86	87	80-120	.4	30	

QUALIFIERS

Project: BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.: 10169546

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated more than 15 minutes after sample collection.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	BP OLD LANDFILL/CLARK TAILINGS
Pace Project No.:	10169546

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10169546001	**BSB-GW-05**	EPA 200.8	MPRP/28519	EPA 200.8	ICPM/11509
10169546002	**BSB-GW-06**	EPA 200.8	MPRP/28519	EPA 200.8	ICPM/11509
10169546001	**BSB-GW-05**	EPA 245.1	MERP/6017	EPA 245.1	MERC/6829
10169546002	**BSB-GW-06**	EPA 245.1	MERP/6017	EPA 245.1	MERC/6829
10169546001	**BSB-GW-05**	EPA 120.1	WET/23579		
10169546002	**BSB-GW-06**	EPA 120.1	WET/23579		
10169546001	**BSB-GW-05**	SM 4500-H+B	WET/23534		
10169546002	**BSB-GW-06**	SM 4500-H+B	WET/23534		
10169546001	**BSB-GW-05**	ASTM D516-02	WETA/11075		
10169546002	**BSB-GW-06**	ASTM D516-02	WETA/11075		
10169546001	**BSB-GW-05**	SM 4500-Cl E	WETA/11083		
10169546002	**BSB-GW-06**	SM 4500-Cl E	WETA/11083		

U49

Atlantic Richfield Company
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Laboratory Management Program LaMP Chain of Custody Record

Page 1 of 1

BP/ARC Project Name: ~~LAO Wetlands~~ Old Landfill/Clark Tailings

BP/ARC Facility No:

Req Due Date (mm/dd/yy): Standard

Rush TAT: Yes ___ No X

Lab Work Order Number: 10169546

Lab Name: Pace Analytical Services	BP/ARC Facility Address: 820 Centennial Butte, MT	Consultant/Contractor: Pioneer Techincal Services
Lab Address: 1700 Elm Street	City, State, ZIP Code:	Consultant/Contractor Project No:
Lab PM: Julie Thieschafer	Lead Regulatory Agency: MTDEQ	Address: 63 1/2 W. Broadway, Butte MT 59701
Lab Phone: 612-607-6363	California Global ID No.:	Consultant/Contractor PM: ~~Dave Griffis~~ F Shawn Bisch
Lab Shipping Accnt:	Enfos Proposal No:	Phone: 406-563-9371
Lab Bottle Order No:	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: ~~dgriffis~~ sbisch@pioneer-technical.com
Other Info:	Stage: Activity:	Invoice To: BP/ARC X Contractor ___
BP/ARC EBM: Shannon Dunlap		
EBM Phone: (406) 782-9964		
EBM Email:		

Report Type & QC Level

Standard X

Full Data Package ___

				Matrix			No. Containers / Preservative						Requested Analyses										
Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	H_2SO_4	HNO_3/Filt	HCl	Methanol	Total Recoverable Metals	Al, Ca,Mg,As,Cd,Cu,Fe	Pb, Hg, Ag, Uranium, Zn	Dissolved Metals ~~(HOLD)~~ F	pH, SC, Cl⁻, SO4⁻2						Comments Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.
	~~MW-05~~ F																						F
	BSB-GW-05	9/13/11			✓		2	1		1						✓	✓						10169546001/
	BSB-GW-06	9/13/11			✓		2	1		1						✓	✓						002

Sampler's Name: Brad Hollamon / Julie Flammang

Sampler's Company: Pioneer Techinical

Shipment Method: FedEx Ship Date:

Shipment Tracking No:

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Julie Flammang	9/14/11	1000	Pace	9/15/11	10:00

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: [✓ Yes] / No | Temp Blank: [✓ Yes] / No | Cooler Temp on Receipt: 25 °F/[✓ C] | Trip Blank: Yes / [✓ No] | MS/MSD Sample Submitted: Yes / [✓ No]

10169546

24 of 27

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form - ESI**	Revised Date: 02Jun2011 Page 1 of 1
	Document Number: **F-L-210 Rev.04**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: BP

Project # 10169546

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 874196167921

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes [✓ No]

Thermometer Used [✓ 80344042] or 80512447 **Type of Ice:** [✓ Wet] Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.5 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

Date and Initials of person examining contents: 9-15-11 NB

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume: triple volume provided for MS/MSD	☐Yes ☒No ☐N/A	8.
Correct Containers Used: -Pace Containers Used:	☒Yes ☐No ☐N/A ☒Yes ☐No ☐N/A	9.
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☒Yes ☐No ☐N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	☒Yes ☐No ☐N/A	12. 05 14:34 06 13:25 per sample
All containers needing acid/base preservation have been checked. All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A ☒Yes ☐No ☐N/A	13. ☒ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp # 1/1, 1/1 05, 06
Per method, VOA pH is checked after analysis		Initial when completed NB | Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
3 Trip Blanks Present: Trip Blank Custody Seals Present Pace Trip Blank Lot # (if purchased):_____	☐Yes ☐No ☒N/A ☐Yes ☐No ☒N/A	16.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

Temp Log: Temp must be maintained at <6 C during login, record temp every 20 mins

Opened time: 1332 Temp: 2.5

Time: 1352 put in cooler

Time: Temp:

Project Manager Review: _____ **Date:** 9/16/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Minnesota Laboratory

ICV Sol.#: 8961-149 Time Out: 10:30 PM Hot Block ID:: 1

Page Number: 8308
Friday, September 23, 2011

H2SO4: 105428
HCL: N/A
HNO3: 1111030
Digestion Tube Lot #: 1105331

Potassium Persulfate: 8961-117
Potassium Permanganate: 8961-083
Stannous Chloride: 8961-134
Hydroxylamine Hydrochloride: 8961-092

Analyst	Sample ID	Average	Client	Absorbance	Prep. Date	QC Batch	Initial Wt./Vol (g or ml)	Final Vol. (ml)	Project No.	Comments
					9/23/2011					
TEM	1059178		Quality Control		9/23/2011	6017	30	30		/
TEM	1059179		Quality Control		9/23/2011	6017	30	30		/
TEM	10169546001		BPAR-PIONEER-MT		9/23/2011	6017	30	30	10169546	/
TEM	10169546002		BPAR-PIONEER-MT		9/23/2011	6017	30	30	10169546	/
TEM	1061598		Quality Control		9/23/2011	6017	30	30		/
TEM	1061599		Quality Control		9/23/2011	6017	30	30		/
TEM	10169563001		BPAR-PIONEER-MT		9/23/2011	6017	30	30	10169563	/
TEM	10169592001				9/23/2011	6017	30	30	10169592	/
TEM	10169592002				9/23/2011	6017	30	30	10169592	/
TEM	10169508001				9/23/2011	6017	30	30	10169508	/
TEM	10169508002				9/23/2011	6017	30	30	10169508	/
TEM	10169508003				9/23/2011	6017	30	30	10169508	/
TEM	10169679001				9/23/2011	6017	30	30	10169679	/
	0.0 ppb		Cal Blk				0	30		
	0.2 ppb		Cal 1				0.12	30		
	1.0 ppb		Cal 2				0.6	30		
	3.0 ppb		Cal 3				1.8	30		
	5.0 ppb		Cal 4				3.0	30		
	10 ppb		Cal 5				6.0	30		
	1.0 ppb		ICV/CCV 1				1.0	30		
	0.0 ppb		ICB/CCB 1				0.0	30		
	1.0 ppb		ICV/CCV 2				1.0	30		
	0.0 ppb		ICB/CCB 2				0.0	30		

Form I177Rev.00, 24Apr2007

Peer Review ____________

Metals Digestion Log

Minnesota Laboratory

ICP Spike Sol. #1: 8074-272 #2: 8074-275 #3: N/A #4: N/A

Spike Vol. #1: 0.2 #2: 0.2 #3: N/A #4: N/A

Hydrogen Peroxide: N/A Nitric: 1111030 Hydrochloric: N/A

Digestion Tube Lot #: 1105331

Page Number: 21413

Tuesday, September 20, 2011

Temp: 94 C

Hot Block ID: 4

Analyst	Sample ID	Client	Sample Type	QC Batch	Initial Wt./Vol (g or ml)	Final Vol. (ml)	Project No.	Comments	Method	Prep Date
RJS	1057649	Quality Control	LCS	28519	50	50			2008 WD_P	9/20/2011
RJS	1057650	Quality Control	MS	28519	50	50			2008 WD_P	9/20/2011
RJS	1057651	Quality Control	MSD	28519	50	50			2008 WD_P	9/20/2011
RJS	1057652	Quality Control	MS	28519	50	50			2008 WD_P	9/20/2011
RJS	10169508001		PS	28519	50	50	10169508		2008 WD_P	9/20/2011
RJS	10169508002		PS	28519	50	50	10169508		2008 WD_P	9/20/2011
RJS	10169508003		PS	28519	50	50	10169508		2008 WD_P	9/20/2011
RJS	10169546001	BPAR-PIONEER-MT	PS	28519	50	50	10169546		2008 WD_P	9/20/2011
RJS	10169546002	BPAR-PIONEER-MT	PS	28519	50	50	10169546		2008 WD_P	9/20/2011
RJS	10169563001	BPAR-PIONEER-MT	PS	28519	50	50	10169563		2008 WD_P	9/20/2011
RJS	10169592001		PS	28519	50	50	10169592		2008 WD_P	9/20/2011
RJS	10169592002		PS	28519	50	50	10169592		2008 WD_P	9/20/2011
RJS	10169679001		PS	28519	50	50	10169679		2008 WD_P	9/20/2011
RJS	10169740001		PS	28519	50	50	10169740		2008 WD_P	9/20/2011
RJS	10169740002		PS	28519	50	50	10169740		2008 WD_P	9/20/2011
RJS	10169740003		PS	28519	50	50	10169740		2008 WD_P	9/20/2011
RJS	10169740004		PS	28519	50	50	10169740		2008 WD_P	9/20/2011
RJS	10169740005		PS	28519	50	50	10169740		2008 WD_P	9/20/2011
RJS	1057648	Quality Control	BLANK	28519	50	50			2008 WD_P	9/20/2011

Form I178Rev.00, 25Apr2007

Peer Review ____________

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

ection A
equired Client Information:
ompany: Pioneer Technical
ddress: 63 1/2 W. Broadway
Butte, MT 59701
mail To: sbisch@pioneer-techinical.com
hone: 406-533-9371 Fax:
equested Due Date/TAT:

Section B
Required Project Information:
Report To: Shawn Bisch
Copy To:
Purchase Order No.:
Project Name: Old Landfill
Project Number:

Section C
Invoice Information: Rick Larson
Attention: ~~[illegible]~~ (406-497-6575)
Company Name: BSB Public Works Dept
Address: 126 W. Granite, Butte MT 59701
Pace Quote Reference:
Pace Project Manager: Julie Thieschafer
Pace Profile #: 9705

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: mt

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Cyanide	Nitrate+Nitrite	COD	8270	8151	8260	Diss Metals						Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BSB GW-01	WT	G	9/12/11	1435			11	11	5	1	1	3	1					✓	✓	✓	✓	✓	✓	✓							
2	BSB GW-02	WT	G	9/12/11	1515			17	10	4	1		3	1					✓	✓	✓	✓	✓	✓								
3	BSB GW-03	WT	G	9/12/11	1600			14.5	10	5	1		3	1					✓	✓	✓	✓	✓	✓								
4	BSB GW-04	WT	G	9/13/11				15.1	10	4	1		3	1					✓	✓	✓	✓	✓	✓								
5	~~BSB-GW-05~~	~~WT~~	~~G~~	~~9/13/11~~					~~2~~	~~1~~		~~1~~													~~✓~~							J 9/13/11
6	~~BSB GW-06~~	~~WT~~	~~G~~	~~9/13/11~~		15[illegible]			~~2~~	~~1~~		~~1~~													~~✓~~							9/13/11
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Brad Hollamon / Julie Flammang
SIGNATURE of SAMPLER: Julie Flammang
DATE Signed (MM/DD/YY): 9/14/11

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

Page 1 of ____

BP/ARC Project Name: ~~LAO Wetlands~~ Old Landfill/Clark Tailings

BP/ARC Facility No: ____

Req Due Date (mm/dd/yy): Standard

Rush TAT: Yes ____ No X

Lab Work Order Number: ____

Lab Name: Pace Analytical Services	BP/ARC Facility Address: 820 Centennial Butte, MT	Consultant/Contractor: Pioneer Techincal Services
Lab Address: 1700 Elm Street	City, State, ZIP Code:	Consultant/Contractor Project No:
Lab PM: Julie Thieschafer	Lead Regulatory Agency: MTDEQ	Address: 63 1/2 W. Broadway, Butte MT 59701
Lab Phone: 612-607-6363	California Global ID No.:	Consultant/Contractor PM: ~~Dave Griffis~~ J Shawn Bisch
Lab Shipping Accnt:	Enfos Proposal No:	Phone: 406-563-9371
Lab Bottle Order No:	Accounting Mode: Provision ____ OOC-BU ____ OOC-RM ____	Email EDD To: sbisch ~~dgriffis~~@pioneer-technical.com
Other Info:	Stage: Activity:	Invoice To: BP/ARC X Contractor ____
BP/ARC EBM: Shannon Dunlap		
EBM Phone: (406) 782-9964		
EBM Email:		

Report Type & QC Level: Standard X Full Data Package ____

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol		Requested Analyses: Total Recoverable Metals	Al, Ca, Mg, As, Cd, Cu, Fe	Pb, Hg, Ag, Uranium, Zn	Dissolved Metals ~~(HOLD)~~	TDS, Cl, SO_4						Comments
	~~MW-05~~ J																								
	BSB-GW-05	9/13/11			✓			2	1		1							✓	✓						
	BSB-GW-06	9/13/11			✓			2	1		1							✓	✓						

Comments: Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

Sampler's Name: Brad Hollamon / Julie Flammang

Sampler's Company: Pioneer Techinical

Shipment Method: FedEx Ship Date:

Shipment Tracking No:

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Julie Flammang	9/14/11	1000			

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: ____°F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No